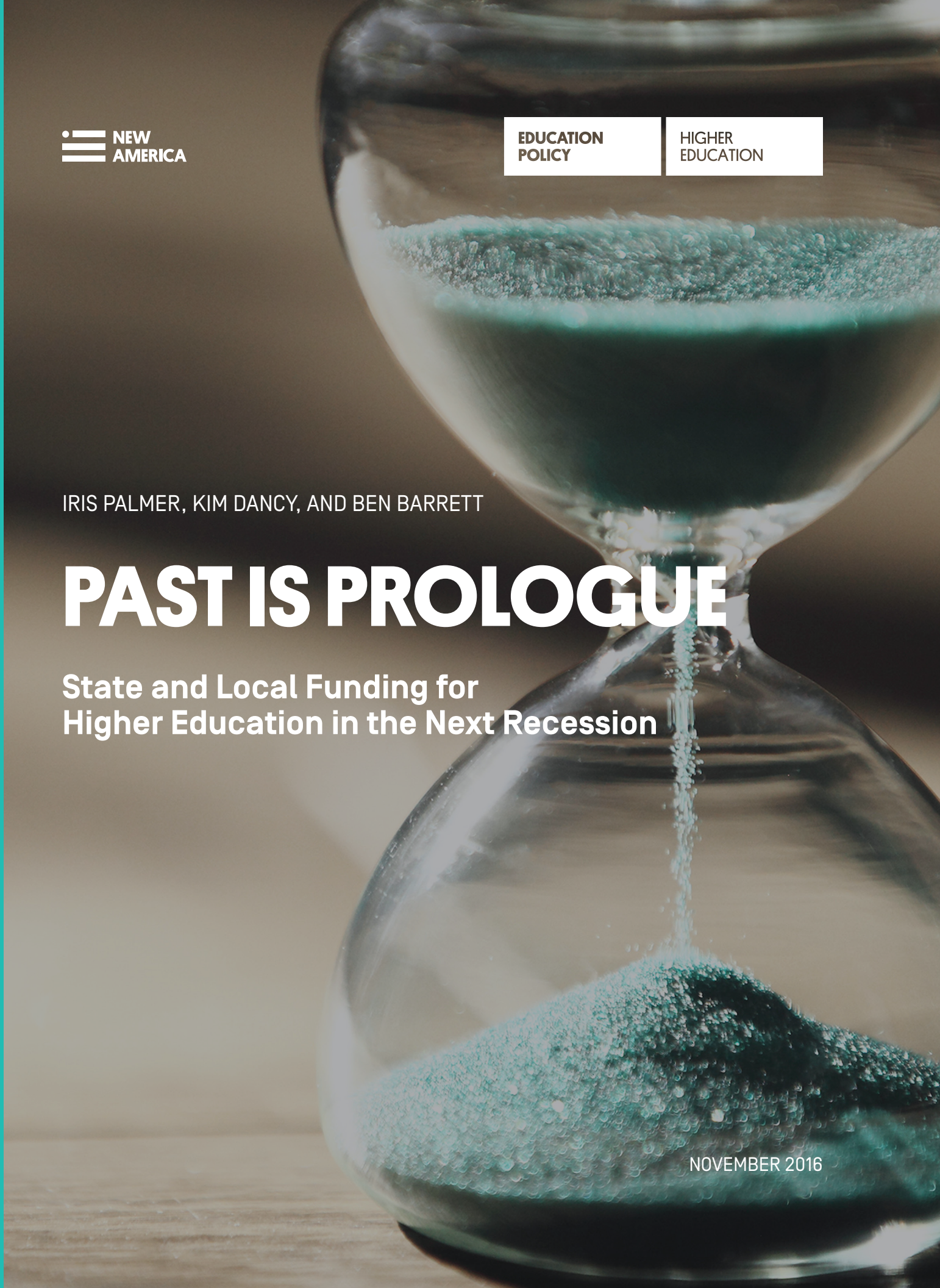

NEW AMERICA

EDUCATION POLICY | HIGHER EDUCATION

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PAST IS PROLOGUE

State and Local Funding for Higher Education in the Next Recession

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INTRODUCTION

The year is 2020. As experts warned, a recession has once again rocked the U.S. economy. Still not recovered from the 2008 recession, state legislatures scramble to shore up their budgets after a 2017 economic contraction by slashing funding for public colleges and universities. To make matters worse, states strain under ballooning enrollment, which has now risen by over a million as people look to improve their skills so they have a chance in the weak job market. Per-student funding has not kept pace. States' general operating support for public colleges is much lower than 2015 levels, causing average annual tuition to rise by more than $3,000, a 30 percent increase in just five years, leaving students and families more heavily indebted than ever.

This scenario, only a prediction based on past state behavior in economic cycles, should give policymakers pause. While recessions do not operate on a schedule, the average time between recessions in the U.S. since World War II has been about five years. But seven years after the end of the last recession, most states have still not reinvested in higher education to pre-recession levels. Typically, when a recession hits, demand for higher education surges, causing rapid enrollment increases. At the same time, pressures on other budget areas cause legislators to shift resources away from higher education to maintain other state priorities, such as Medicaid and promised pensions for state workers. As a result, many public college and university systems are forced to rely more heavily on tuition revenue—or make spending cuts—to stay open. Each state will handle these pressures in its own way, and some will experience much greater difficulty maintaining current funding levels than others.

In order to explore the potential impacts of a new recession, we examine historical data on state and local appropriations for higher education, as well as aggregate tuition revenue and enrollment levels. Doing so allows us to predict what could happen in another economic downturn, based on state-level responses to the 2001 and 2008 recessions. Although many factors make predicting future policy changes imprecise, this provides a simple framework for thinking about how different state and local governments are likely to respond to a future recession, as well as the impact such an economic event could have on students. Using this methodology, we find that:

- Wyoming is the state most prepared to handle another economic decline, while Colorado's challenges would be the most severe of any state.

- Thirty states are projected to see per-student appropriations fall below the 2015–16 maximum Pell grant award of $5,775 in at least one model. As the cornerstone of

The future is in no way certain. States with high disinvestment and large tuition increases in previous recessions could easily reverse course should their priorities change.

federal financial aid, the Pell grant provides a framework for thinking about per-student public investment in higher education.

- New Hampshire would see the lowest per-student appropriations by the end of another recession, with funding levels as low as $2,400.
- Per-student tuition revenue would exceed the current U.S. average (in 2015 dollars) in 43 states by the end of the next recession. Delaware is projected to collect the most per-student tuition revenue of any state, at close to $25,000, more than three times higher than the current U.S. average.
- Fourty-three states are expected to increase tuition revenue to a level that more than offsets declines in per-student state and local appropriations between 2016–2022. This is most severe in Oklahoma in the event of a recession like the one that occurred in 2001, where tuition increases would exceed state and local funding cuts by up to $15,778.

These findings illustrate what past actions would predict for each state, but the future is in no way certain. States with high disinvestment and large tuition increases in previous recessions could easily reverse course should their priorities change. Likewise, those who top our rankings could end up losing ground in a future recession if they are not able to maintain their commitment to higher education funding. But if current trends hold, public colleges and universities will struggle to maintain affordability for students at projected resource levels in the event of another recession, which would have adverse implications for students. Rethinking how we fund public institutions could allow states to offset cyclical economic forces, and maintain or improve affordability for students even in the face of economic decline.

HOW STATE DISINVESTMENT AFFECTS QUALITY AND AFFORDABILITY AT PUBLIC COLLEGES AND UNIVERSITIES

State budget cuts affect public higher education in many ways. Colleges must either replace lost revenue from other sources, typically by raising tuition, or decrease their expenditures.

The simplest way for schools to increase revenue is to raise tuition for all students. Colleges can also increase total tuition revenue by shifting their enrollment mix: recruiting higher-income students who pay more than their lower-income peers means more revenue from the same number of students. But this shift in enrollment priorities can reduce access for students with the greatest financial need.[1] Institutions may also be inclined to recruit out-of-state (or out-of-district) students who pay substantially higher tuition, which might squeeze out qualified in-state students.[2]

Raising tuition at public colleges in this way has lasting consequences, particularly for low-income and underserved populations. An increase in the price of college results in a predictable decrease in enrollment for low-income and minority groups.[3] Those who make it past the sticker shock and actually enroll may need to take on larger debt loads to pay for their college education. Some students may even need to take out private loans that lack important federal protections like the ability to repay loans as a percentage of disposable income or defer payment on a short-term basis. Rising prices at public four-year colleges has also led to an erosion of the purchasing power of the Pell Grant, the federal government's most important program for supporting low-income college students.

In the face of state and local cuts, another option for schools is to hold tuition revenue constant, and cut spending in order to maintain good financial standing. In theory, this maintains affordability for students, but it can also impact student success. Colleges may increase class sizes and cut class sections to save money on instructors. Entire programs, supplemental services, or other student supports might be on the chopping block as colleges look for cost-saving measures. Some schools may be able to cut spending in ways that maintain quality by adopting innovative approaches to higher education. However, innovation of this sort can be difficult to do well, takes time to implement, and often requires up-front investments that are hard to fund during a recession.

Unpredictable budgets put public colleges and universities in a difficult position. While there

are likely ways for some institutions to do more with less, the most common scenario has been that schools make choices that ultimately hurt students. To better understand these impacts at the state level, our analysis looks at historic responses to economic recession, exploring the extent to which states raise tuition, cut spending, or, most commonly, both.

STATE RANKINGS

Variations in state behavior and circumstance hold the key to understanding the potential impact of another recession. Different authorities in each state set tuition and are guided by varying philosophies. Some state actors may favor high tuition if this allows colleges to give needy or high achieving students more aid. Others may charge universally lower tuition and offer less aid. The political environments in each state also have a major bearing on the general operating support granted to public colleges.

To estimate each state's likely course of action in a future recession, we first establish a baseline growth level for enrollment, tuition revenue, and state and local appropriations, using the average year over year change for each state from 2001 to 2015. We use this time frame to incorporate at least two recessions, which is important because the severity of the 2008 recession may not be indicative of what's to come. We factor in estimated annual recessionary impacts by measuring the deviation from that average in a given year.

We then use several measures to create composite rankings of all 50 states. First, we project per-student state and local appropriations to public four-year schools as well as community colleges in 2022, incorporating the impact of another recession. We then evaluate how much these funding levels are projected to change in percentage terms between 2016 and 2022. Next, we consider the projected per-student tuition level in 2022 and the estimated percentage change since 2015. Finally, we compare the projected per-student appropriations cuts to per-student tuition increases. This final measure helps gauge the extent to which tuition increases are directly linked to appropriations cuts, accounting for colleges in states that increase tuition at a rate that more than offsets lost public support. We calculate each measure based on the 2001 and 2008 recessions, and weight each factor from both models equally to create our composite rankings. While the 2008 recession was much worse than the one that occurred in 2001, we give the two models equal weighting in our rankings because we are unable to predict the size and impact of a future downturn, and because our rankings are based on

Table 1 | State Rankings: Projected Changes in Per-Student Appropriations and Tuition

State	Predicted Appropriations 2022				Predicted Tuition Revenue 2022				Predicted Tuition Increase Relative to Predicted Appropriations Cuts		Final ranking
	2001 Model		2008 Model		2001 Model		2008 Model		2001 Model	2008 Model	
	Change from 2015	Per student total 2022	Change from 2015	Per student total 2022	Change from 2015	Per student tuition 2022	Change from 2015	Per Student Tuition 2022	Net tuition and approp. change	Net tuition and approp. change	
WY	13%	$17,138	17%	$17,712	-20%	$2,116	4%	$2,772	-$2,541	-$2,459	**1**
NV	36%	$8,760	27%	$8,175	34%	$5,372	47%	$5,899	-$943	$168	**2**
NY	8%	$10,515	4%	$10,116	17%	$6,522	42%	$7,892	$134	$1,902	**3**
TX	15%	$7,756	-2%	$6,584	14%	$5,293	37%	$6,344	-$372	$1,850	**4**
AK	20%	$21,044	15%	$20,138	52%	$9,755	30%	$8,331	-$221	-$739	**5**
NE	24%	$10,941	7%	$9,393	41%	$8,133	49%	$8,575	$224	$2,215	**6**
TN	16%	$7,603	20%	$7,844	16%	$6,815	59%	$9,371	-$142	$2,174	**7**
FL	10%	$6,483	-5%	$5,606	9%	$3,287	56%	$4,692	-$288	$1,993	**8**
MD	10%	$8,639	5%	$8,250	34%	$10,320	29%	$9,922	$1,882	$1,874	**9**
HI	14%	$13,875	2%	$12,324	28%	$7,709	72%	$10,349	-$64	$4,126	**10**
CA	3%	$9,007	0%	$8,752	115%	$5,175	83%	$4,411	$2,489	$1,981	**11**
MT	4%	$5,903	-8%	$5,213	40%	$8,373	25%	$7,499	$2,159	$1,975	**12**
NC	2%	$8,240	-3%	$7,859	61%	$6,714	60%	$6,701	$2,404	$2,773	**13**
WI	-11%	$5,559	-4%	$5,994	25%	$7,151	39%	$7,954	$2,107	$2,474	**14**
ID	-5%	$6,485	1%	$6,856	21%	$4,980	131%	$9,548	$1,180	$5,378	**15**
KY	-3%	$6,277	-16%	$5,457	22%	$7,700	39%	$8,768	$1,588	$3,476	**16**
MA	-18%	$6,626	-22%	$6,292	36%	$8,221	13%	$6,845	$3,637	$2,595	**16**
UT	6%	$6,908	2%	$6,658	67%	$9,024	65%	$8,917	$3,239	$3,382	**18**
LA	7%	$5,500	-1%	$5,111	63%	$7,378	63%	$7,390	$2,511	$2,912	**19**
GA	-9%	$6,742	-18%	$6,072	14%	$4,901	122%	$9,564	$1,242	$6,576	**20**
ND	-1%	$8,643	-6%	$8,182	142%	$18,167	25%	$9,415	$10,737	$2,445	**20**
AR	-2%	$6,740	-17%	$5,693	81%	$8,691	47%	$7,096	$4,001	$3,453	**22**
KS	-6%	$5,522	-10%	$5,314	54%	$9,594	41%	$8,751	$3,732	$3,096	**23**
IL	-11%	$10,401	-11%	$10,396	59%	$8,409	71%	$9,039	$4,349	$4,984	**24**

State	Predicted Appropriations 2022				Predicted Tuition Revenue 2022				Predicted Tuition Increase Relative to Predicted Appropriations Cuts		Final ranking
	2001 Model		2008 Model		2001 Model		2008 Model		2001 Model	2008 Model	
	Change from 2015	Per student total 2022	Change from 2015	Per student total 2022	Change from 2015	Per student tuition 2022	Change from 2015	Per Student Tuition 2022	Net tuition and approp. change	Net tuition and approp. change	
VT	3%	$3,298	-2%	$3,148	18%	$18,167	17%	$18,015	$2,726	$2,725	25
SD	4%	$5,326	12%	$5,749	41%	$11,800	75%	$14,659	$3,211	$5,646	26
IN	-11%	$4,957	-11%	$4,956	46%	$10,668	31%	$9,510	$4,020	$2,864	27
ME	-7%	$6,278	-10%	$6,114	54%	$13,912	29%	$11,615	$5,381	$3,247	28
RI	-6%	$5,003	-18%	$4,365	37%	$11,809	28%	$11,026	$3,454	$3,310	28
NM	-1%	$8,392	-1%	$8,379	96%	$7,040	312%	$14,801	$3,537	$11,311	30
WV	-7%	$4,536	-4%	$4,676	47%	$9,610	43%	$9,357	$3,392	$5,918	31
CT	-6%	$9,323	-20%	$7,899	59%	$15,683	28%	$12,683	$6,376	$4,801	32
NH	-17%	$2,404	-15%	$2,466	-2%	$10,811	37%	$15,145	$279	$4,550	33
SC	7%	$4,953	5%	$4,877	90%	$13,554	58%	$11,273	$6,101	$3,895	34
AZ	2%	$5,548	-4%	$5,183	50%	$11,157	82%	$13,544	$3,601	$6,353	35
OH	-17%	$4,422	-22%	$4,124	39%	$11,294	26%	$10,286	$4,041	$3,331	36
WA	1%	$5,996	-7%	$5,569	74%	$9,902	97%	$11,217	$4,176	$5,918	37
MO	-21%	$4,803	-21%	$4,780	61%	$9,436	41%	$8,282	$4,839	$3,707	38
PA	-17%	$3,484	-19%	$3,389	22%	$13,129	31%	$14,116	$3,069	$4,151	39
MS	-24%	$4,494	-25%	$4,446	51%	$8,244	48%	$8,064	$4,181	$4,050	40
DE	-2%	$5,751	-6%	$5,482	28%	$21,429	62%	$27,228	$4,762	$10,830	41
NJ	-4%	$6,437	-15%	$5,696	58%	$15,969	55%	$15,626	$6,147	$6,545	42
OK	-4%	$6,432	-16%	$5,669	294%	$20,766	66%	$8,777	$15,778	$4,552	43
OR	-11%	$4,546	-15%	$4,322	29%	$10,543	93%	$15,831	$2,904	$8,417	44
IA	-23%	$4,584	-20%	$4,747	43%	$12,732	50%	$13,355	$5,181	$5,642	45
MI	-15%	$4,713	-14%	$4,756	50%	$18,557	45%	$17,939	$6,991	$6,330	46
AL	3%	$5,453	-31%	$3,675	51%	$14,040	72%	$15,964	$4,603	$8,305	47
VA	-18%	$4,058	-20%	$3,967	57%	$12,633	61%	$12,914	$5,467	$5,839	48
MN	-21%	$4,755	-26%	$4,414	82%	$14,791	58%	$12,867	$7,886	$6,303	49
CO	-21%	$3,127	-28%	$2,865	40%	$12,700	77%	$16,032	$4,468	$8,061	50

how states performed on certain metrics relative to each other in that same year.

We use State Higher Education Finance (SHEF) data on enrollment provided by the State Higher Education Executive Officers Association (SHEEO) to create each measure. We include local appropriations, an important source of funding for many community colleges, in our measure of total state support. Local appropriations figures may vary substantially within states, but these within-state variations are not recorded in the SHEF data. This analysis is therefore limited to a state perspective, but includes multiple public funding streams.

A RECESSION COULD RESULT IN SUBSTANTIAL CUTS TO HIGHER EDUCATION FOR MANY STATES

Today, per-student state appropriations are still below their 2008 level. Recessions and corresponding budget crises at the state and local level have caused much of this slide. Any recession over the next several years would, not surprisingly, continue that trend.

Over the course of the next recession, 12 states are projected to add resources per student regardless of the recession model we used. But the majority of states, 28, are projected to cut no matter what the scenario. Legislators in 10 states could increase or decrease funding depending on whether the recession looks like that of 2001 or 2008.

Historically, the majority of funding for higher education has come directly from the states. However, as state investment has been squeezed in recent years, federal investments in grant aid to low-income students, and loans to everyone else, have made federal funding streams more and more critical for students. Today, 17 states already spend less per student than the maximum Pell grant award ($5,775 in 2015–16). More states would join this camp in the event of another recession.

By the end of the next recession, six additional states would be funding less per student than the current maximum Pell grant regardless of the model used. In total, thirty states will have fallen below this federal funding level in one or both recession models.

Figure 1 | Projected Changes in Per-Student Appropriations in the Next Recession

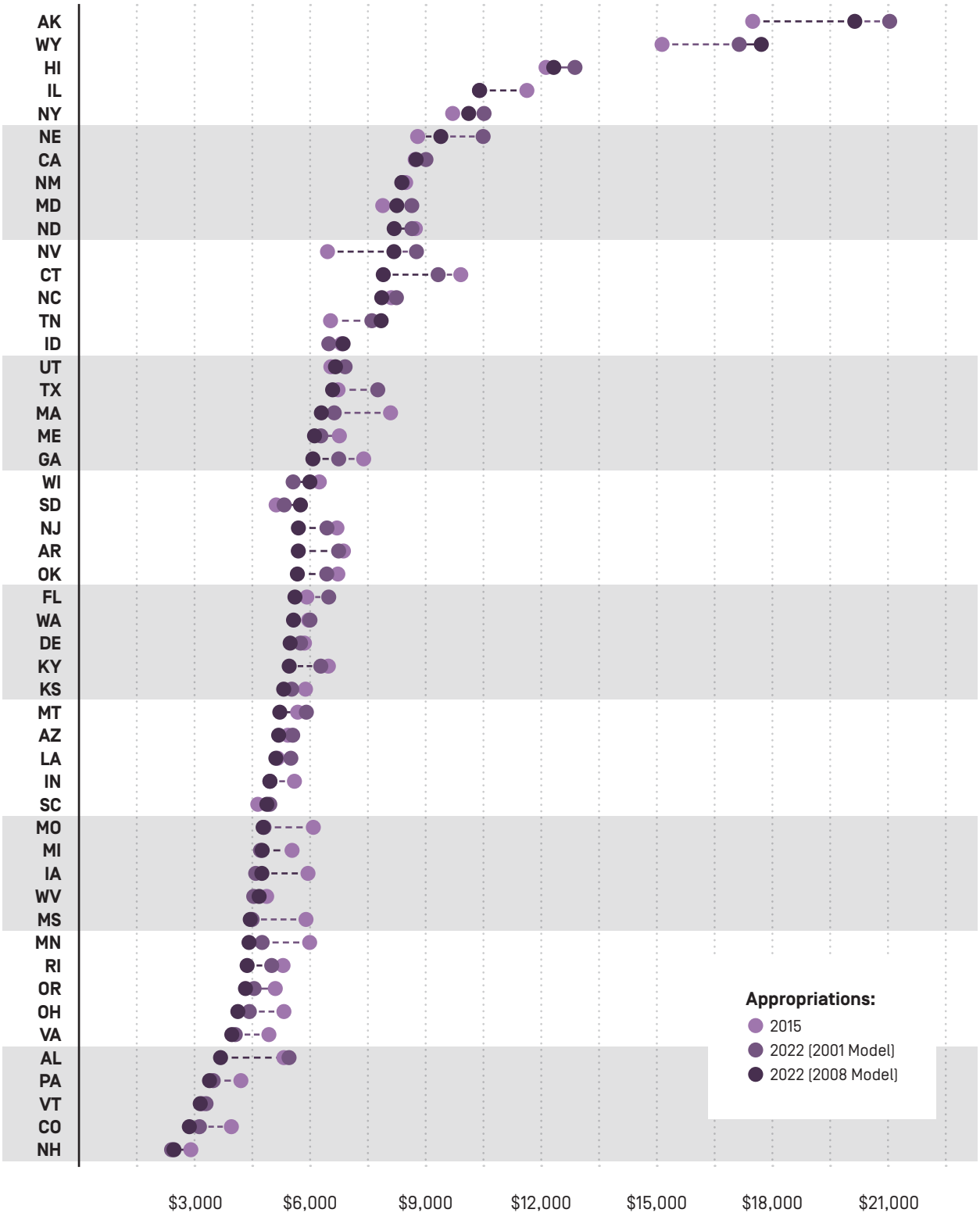
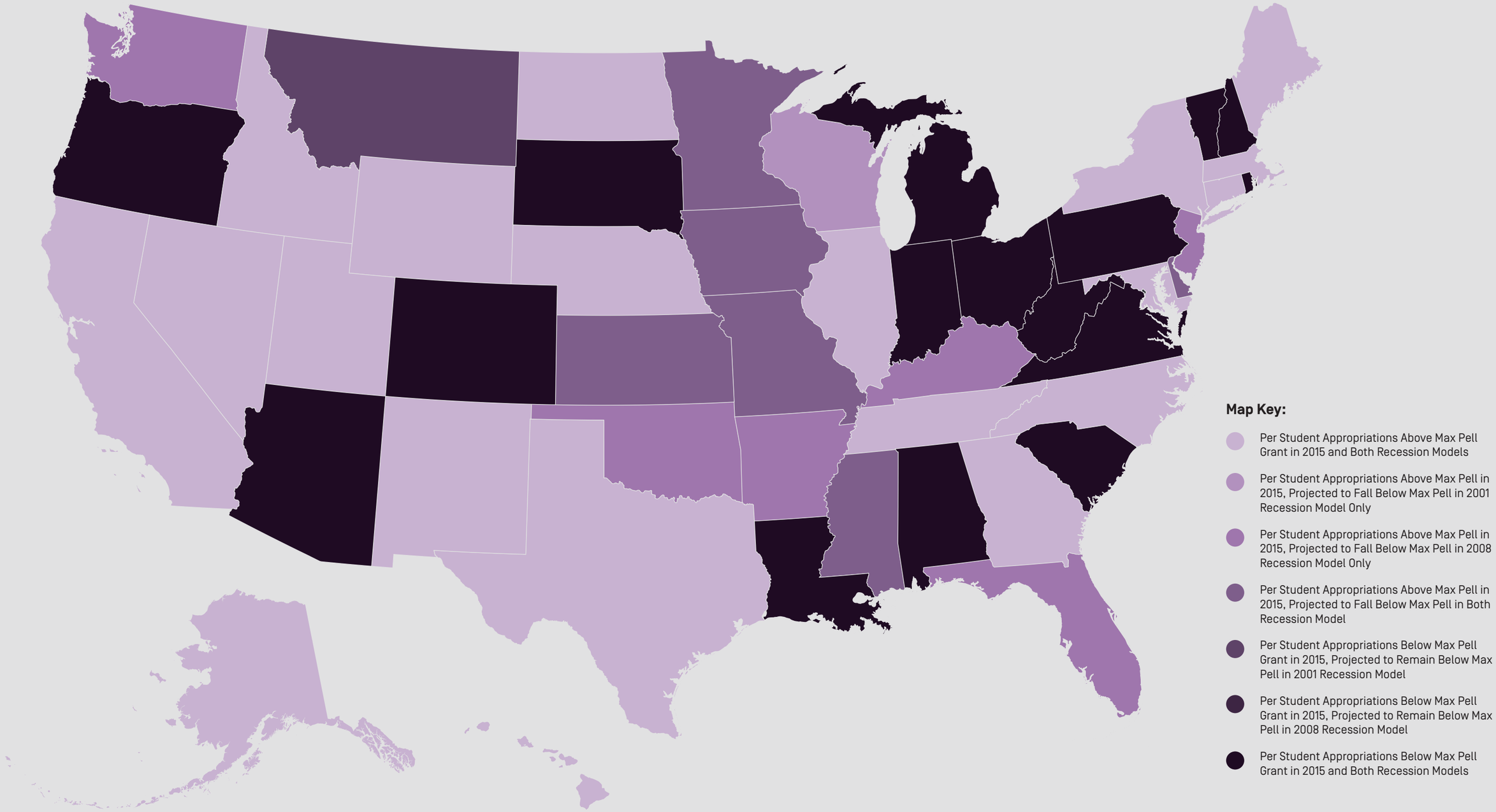


Figure 2 | Projected Changes in Per-Student Appropriations in the Next Recession



TUITION HIKES ARE EXACERBATED BY RECESSIONARY IMPACTS

Right now, the average per-student tuition nationally is $6,006 (in 2015 dollars). But by 2022, our models show few states would keep tuition below that amount. For many states, tuition is projected to be over twice as high as the current U.S. average by then, and for some states this figure could be over three times today's national average.

A handful of states—California, Florida, Nevada, and Wyoming—are projected to keep tuition below the 2015 average through 2022, even if a recession hits. While this is good news for students in those states, it does not mean that tuition charges will not rise substantially. For example, California's average tuition revenue in 2015 was about $2,400, making it the lowest in the country. If we were to experience another recession similar to that of 2008, this number would more than double, to nearly $5,200.

Contrast that with Florida, which has slightly higher average tuition today, at about $3,000 per student, but low projected increases over time, even in the event of economic decline. If we were to see a recession like that of 2001, its tuition would rise by just $300. Under the 2008 model, Florida fares less well, but still keeps tuition increases to about $1,700. These smaller increases mean that students and families in Florida would have much more predictable—and affordable—college experiences than those living in California.

> **In states that already have above-average tuition, the increases associated with a new recession would be even more worrisome for students.**

Still other states with below-average tuition would experience much larger increases under a new recession. Perhaps the most extreme example of this is Oklahoma. With starting tuition under $5,300, Oklahoma currently falls below the U.S. average in per-student tuition revenues. Yet $5,300 also represents a huge percentage increase from where it started: in 2001, Oklahoma's per-student tuition revenues hovered at around $1,000. Based on our model, these combined trends suggest that if a recession similar to that of 2001 took place, Oklahoma tuition would soar to over $20,000 by 2022, more than three times the national average in 2015. Other states, like New Mexico, Utah, and Wisconsin, also would see similar spikes in their tuition during the next recession.

Figure 3 | Projected Changes in Per-Student Tuition in the Next Recession

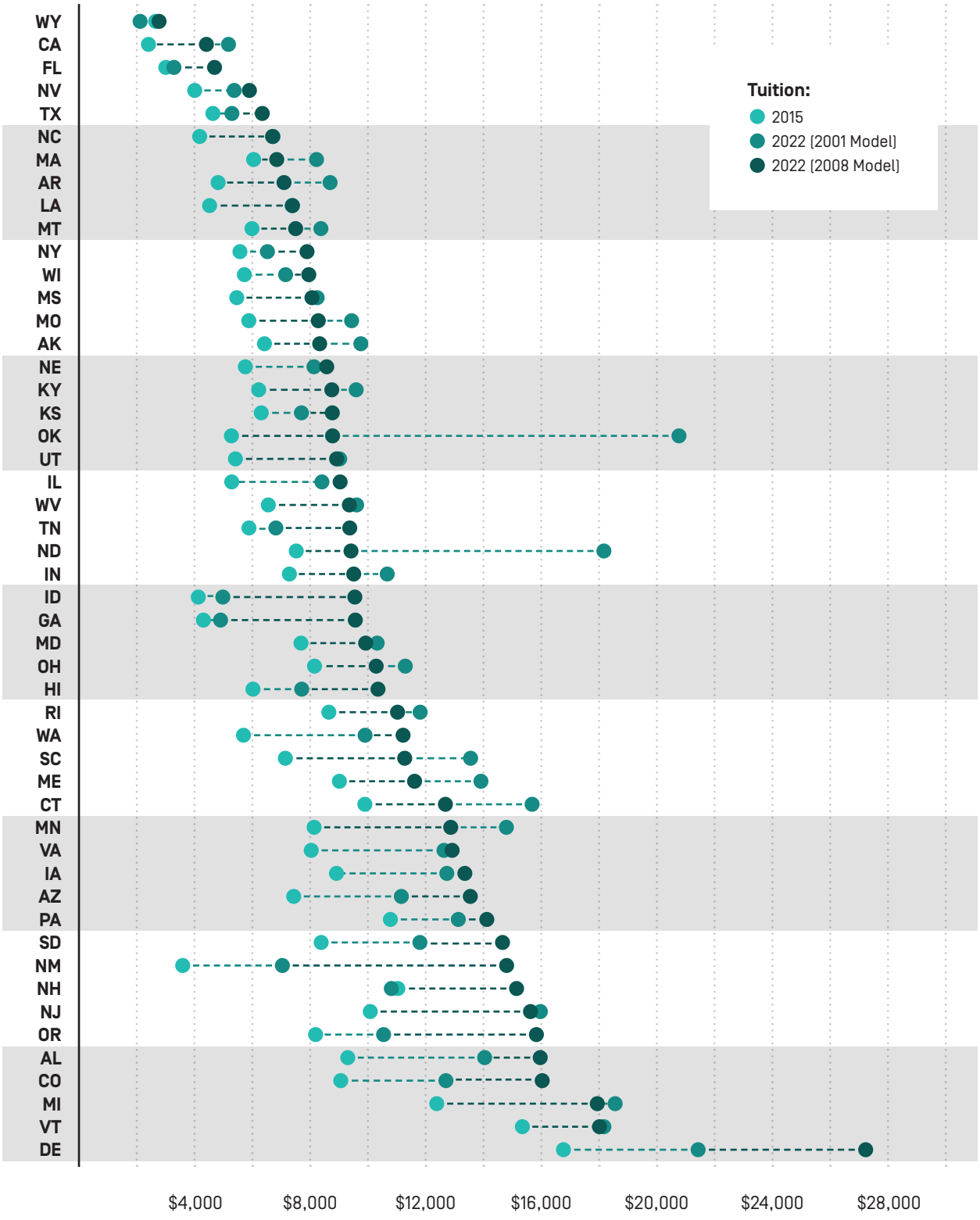
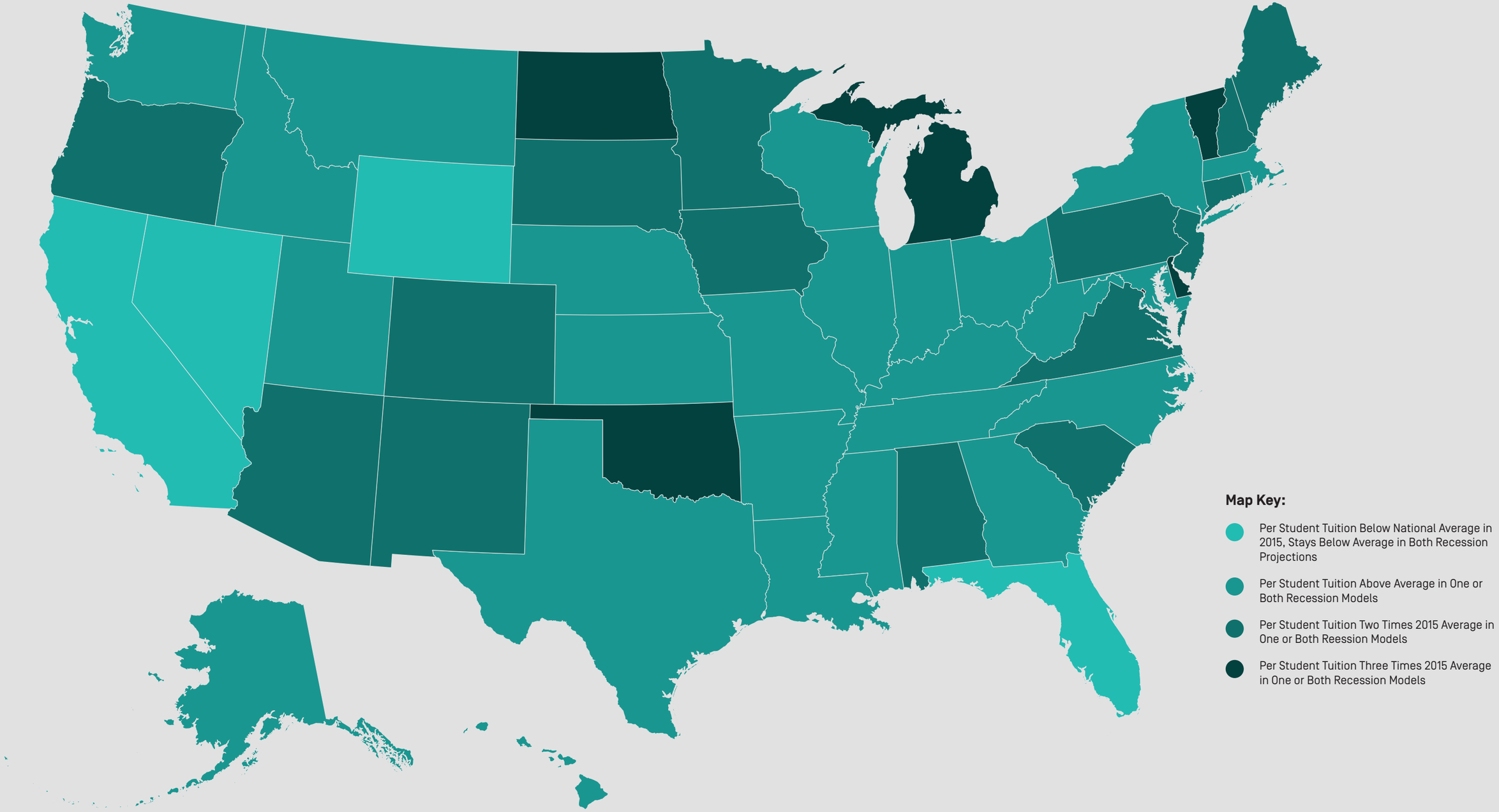


Figure 4 | Projected Changes in Per-Student Tuition in the Next Recession



In states that already have above-average tuition, the increases associated with a new recession would be even more worrisome for students. New Hampshire, Oregon, and South Dakota are just a few examples of states with above-average tuition revenue in 2015 that could see sharp increases in the event of another recession. South Dakota, for example, charged students an average of $8,400 in 2015. We project this figure to rise to $11,800 under the 2001 model, shooting all the way up to $14,700 if we were to experience a recession like that of 2008. In other words, average per-student tuition in these states could be as high as twice today's national average by 2022.

These states are not even the worst offenders in terms of their student's tuition bills. A handful of states, including Delaware, Michigan, North Dakota, and Vermont, could end up with average tuition at public two- and four-year schools close to or above $20,000 per year.

Delaware may become the single worst state for students when it comes to tuition. Starting from $16,700 in average tuition revenue in 2015, the estimated recessionary impacts only make matters worse. We project that actual tuition revenue for a single year could end up as high as $27,000 per student, including both two- and four-year public schools.

While per-student tuition revenue approximates tuition paid by families, there are a few important caveats to consider. Since our data sources include all enrollment and tuition revenue, these numbers are not necessarily reflective of individual experiences. For one thing, two- and four-year schools are combined, despite the fact that tuition charges are typically substantially higher at four-year universities.[4] Additionally, out-of-state student tuition and enrollment are included here. This could mean that one way for states to increase tuition revenue without altering in-state rates is to recruit additional out-of-state students,[5] but is also troublesome if it means in-state students are crowded out of more selective schools within their state.[6] Even after accounting for federal student aid, these combined forces could put college out of reach for many.

TUITION CHANGES CAN BE USED TO OFFSET APPROPRIATIONS CUTS

Just as states' projected behavior will be highly variable with regard to changes in tuition prices and state and local appropriations, the relationship between these two factors in the next recession will also be far from uniform. Not all states would see a simultaneous rise in tuition and a cut in appropriations, though many will. Thirty-seven states, using the 2008 model recession, and 28 states, using the 2001 model, are projected to cut appropriations and raise tuition between 2016 and 2022. Twenty-seven states would cut higher education funding and raise tuition using both the 2001 and 2008 models.

Multiple theories have been offered about why tuition has generally risen so much more than the amount states have cut. While most maintain that state disinvestment is the primary cause of rising tuition, others have advanced the increasing availability of federal financial aid, growth in administrative functions and salaries, or the addition of luxury amenities on many campuses.[7] Whatever the reason, university prices have gone up faster and more consistently than any other part of the economy, including healthcare.

Within the large category of states who would use higher education cuts to balance their budgets and would make up the difference with tuition hikes, some would see more costs shift to students than others. But students at most institutions would see an increase in tuition that dramatically outpaces the amount of funding lost in state subsidies. Over half of all states would experience tuition growth of at least $3,000 above the amount cut in general operating support, regardless of the recession model used.

Other states would see an even larger increase in tuition. In 21 states, tuition would rise by over $5,000 more than the amount cut in general operating support on a per-student level in at least one of the two models. Fewer states were as deeply affected by the 2001 recession, so the largest and most common hikes occurred in the 2008 model. But Iowa, Michigan, Minnesota, New Jersey, and Virginia had a similar response in 2001 and 2008. These five states are projected to raise tuition revenue by at least $5,000 per student more than what their legislators would cut, regardless of the magnitude of a future recession.

Six states would raise tuition especially far above the amount they lost in public support in past recessions. Institutions in Delaware, North Dakota, and New Mexico could see a rise in tuition $10,000 above the amount of state and local cuts in at least one of the two recession models. The furthest

But students at most institutions would see an increase in tuition that dramatically outpaces the amount of funding lost in state subsidies.

outlier, Oklahoma, is projected to raise tuition as much as $15,000 above public funding cuts in a recession similar to the one that occurred in 2001.

Some states' public institutions may carry on with the same tuition levels despite a cut to their general appropriations. If there was a recession like 2001 in New Hampshire, students could look forward to stable tuition levels despite a drop in appropriations. Similarly, based on our 2001 model, Wyoming would experience a highly unusual rise in appropriations and a slight drop in tuition during the next recession. It is worth noting that if appropriations fall and tuition revenue stays constant, per-student spending by definition must drop.

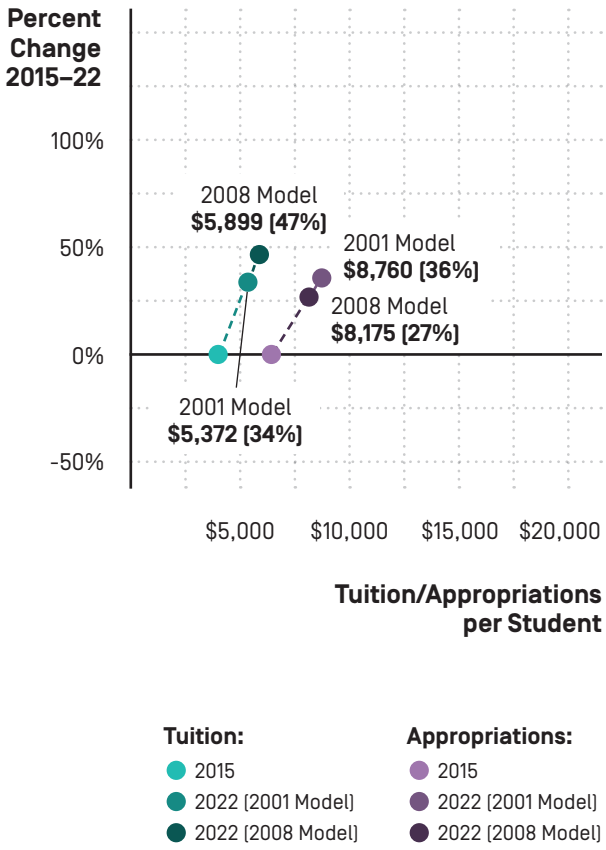
Not all states would cut public funding in the next recession, and not all would raise tuition. While almost all states would increase tuition, 22 would simultaneously raise or maintain appropriations in at least one of the two projection models. Wyoming also differentiates itself by committing to higher education despite the recession. Using the 2001 model, Wyoming would not only lower tuition between 2016 and 2022, but state and local governments would also simultaneously increase appropriations.

STATES PROJECTED TO KEEP TUITION LOW AND STATE FUNDING STEADY IN THE NEXT RECESSION

While it is evident that many are likely to cut funding and raise tuition during an economic strain, states with a historic commitment to supporting their public colleges during the past two recessions may be better positioned to withstand any future shortfalls.

In a future recession, Nevada, one of the highest-ranked states on our list, may preserve or even increase funding for higher education, given the state's actions in 2001 and 2008. Unlike many states, Nevada could maintain funding per student above the maximum Pell Grant award through another recession. Furthermore, the state has managed to keep tuition low. Tuition is forecast to be below the 2015 national average tuition in 2022, even in the event of a recession, one of only four states where this is true. While Nevada is projected to increase tuition at its public universities slightly during a future recession, tuition growth should not outpace the state's per-student appropriations cuts. Instead, the state and its institutions would work together to keep tuition levels relatively constant to protect students from price increases during tough economic times.

Figure 5 | Nevada



New York, like Nevada, would remain fairly stable during the next recession if it reacts as it did in 2001 and 2008. The state would maintain tuition levels close to the 2015 U.S. average, even during a recession. New York is also set to increase per student appropriations. Despite its already high funding relative to other states, New York's public universities could experience a bump in funding of up to eight percent. In terms of the dollar amount, projected funding levels over the course of a future recession could rise to upwards of $10,515 per student.

Similarly, public higher education in Texas may manage to hold funding and tuition steady in a future recession. Tuition there is projected to rise no more than $1,850 above the amount of per-student appropriations cuts. In other words, any rise in tuition at Texas institutions primarily serves to offset revenue losses from state and local budget cuts. Although tuition revenue would rise, increases in per student tuition revenue are nearly equal to the amount Texas public colleges would lose in per student state and local appropriations.

Figure 6 | New York

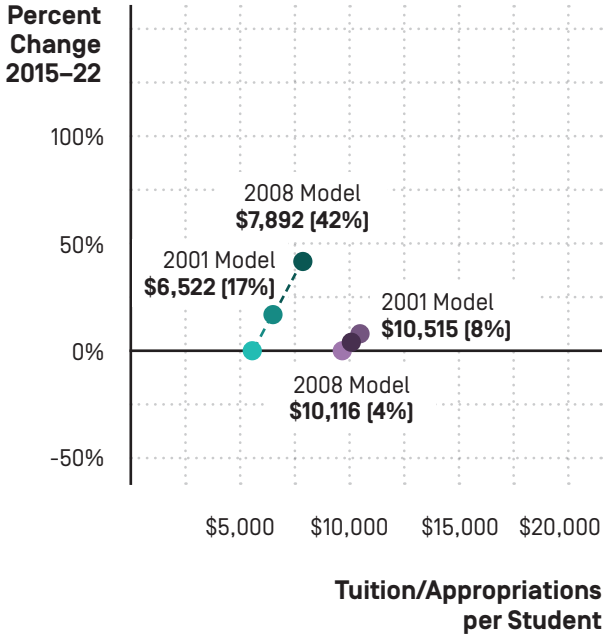
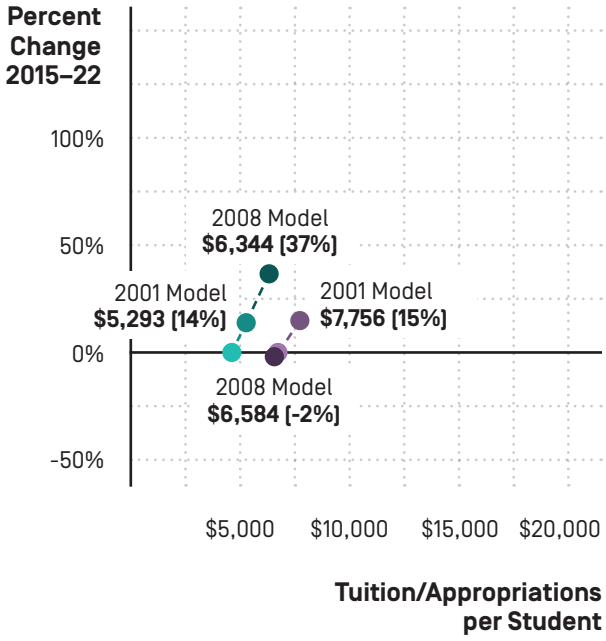


Figure 7 | Texas



Tuition:
2015 · 2022 (2001 Model) · 2022 (2008 Model)

Appropriations:
2015 · 2022 (2001 Model) · 2022 (2008 Model)

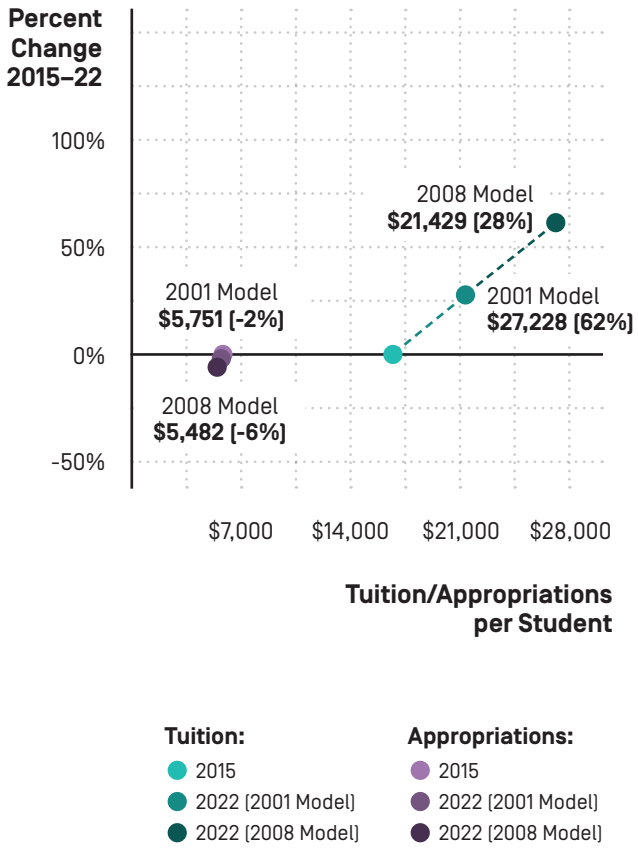
STATES PROJECTED TO CUT FUNDING AND INCREASE TUITION SUBSTANTIALLY IN THE NEXT RECESSION

There are a few states whose higher education systems are well equipped to overcome the stress of a recession. However, many more would see large cuts in state and local appropriations and tuition spikes. Cuts to appropriations mean less revenue for the institutions that students attend, which puts pressure on institutions to either find innovative ways to do more with less, increase revenue from other sources (including tuition), or find a way to scale back on what they provide to students.

Take Delaware. The state's tuition bills are projected to be the highest of any state in the event of another recession. While projected per-student appropriations cuts range from about a quarter to nearly a third of total funding, this pales in comparison to some of the declines in other states. However, when combined with massive projected increases in tuition revenue, another recession could make Delaware one of the worst states for students in terms of college affordability.

The story in Michigan is similar. We predict that, were another recession to occur, appropriations would fall by a significant amount. While these cuts would be much smaller in percentage terms than the losses other states could see, if the state continues on its

Figure 8 | Delaware



current trajectory, the average tuition for students and families could top $18,000 per year, as a combined result of baseline increases and recessionary impacts.

Minnesota presents an even worse fiscal scenario for public higher education. State and local funding is projected to fall by as much as 26 percent in another recession, leaving colleges and universities with a smaller revenue stream. The state would likely raise tuition substantially to offset these shortfalls, jumping from just $8,138 in 2015 to between $13,000–$15,000 in 2022.

Colorado gives us the most dire example of what could happen to public higher education in another recession. Coming in dead last in our rankings, the estimated impact of a recession would be severe. Per-student appropriations would drop by about a quarter, while tuition would jump to over twice the U.S. average in 2015. This, combined with Colorado's already low per-student appropriations and relatively high tuition, would create a difficult situation for students should another recession hit.

Figure 10 | Minnesota

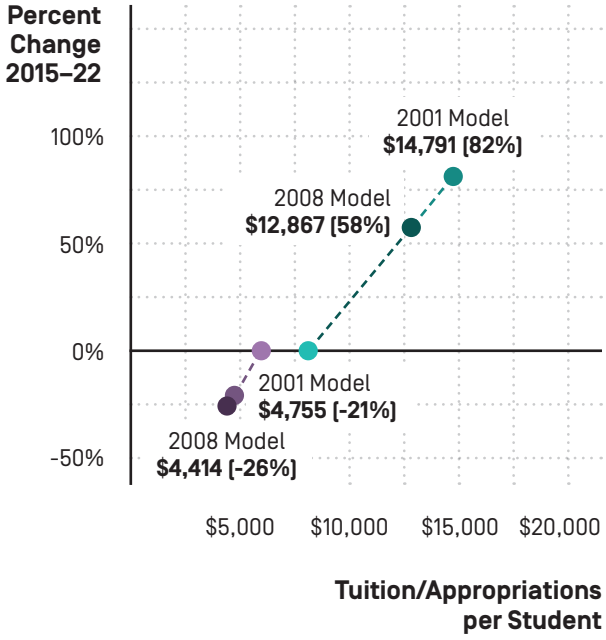


Figure 9 | Michigan

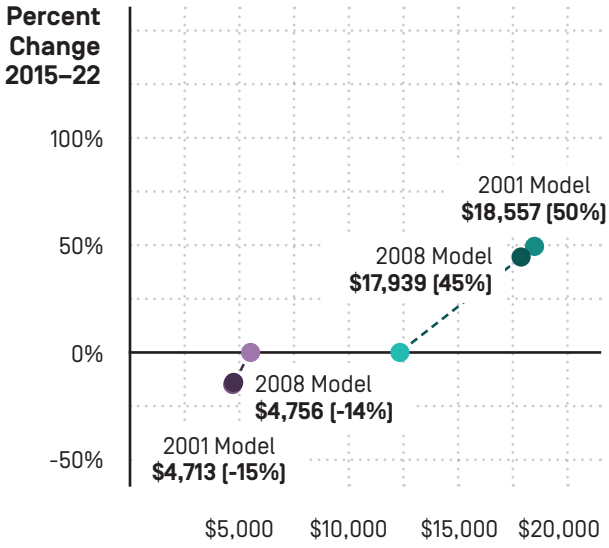
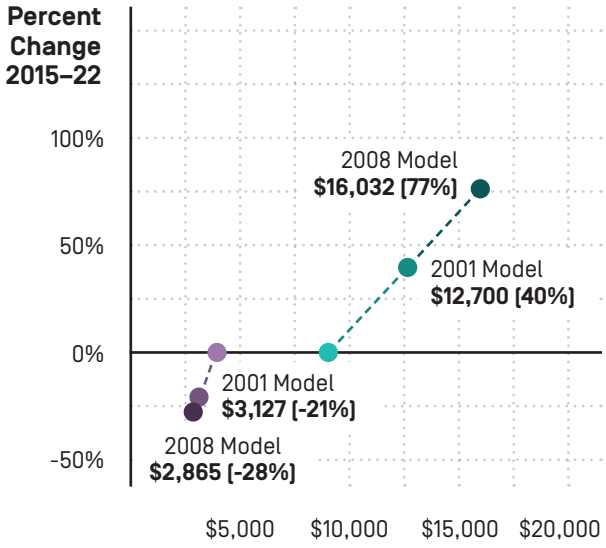


Figure 11 | Colorado



POLICY IMPLICATIONS

Recessions are inevitable. In order to build higher education systems that can weather economic storms, we should start by rethinking how we finance college in the first place. As it stands, higher education is one of the first things to get cut when a recession hits. This occurs for a variety of reasons, including maintenance of effort requirements that tie up resources in programs such as Medicaid,[8] state pension obligations, balanced budget requirements, and other factors that mean states cannot spend more than they collect in tax revenue. Since tuition provides a source of revenue for colleges, state legislators can more easily justify these cuts. While this thinking may help states solve financial crises caused by a recession, failing to reinvest in higher education means state institutions have to operate with fewer resources, or find ways to offset appropriations cuts.

How colleges and universities handle this situation has direct implications for students. Ideally, state systems could innovate, turning decreases in funding into an opportunity to create new ways to help promote student success while cutting costs. But there is no way to guarantee that an institution's spending cuts will unfold according to the best interests of its students. And when it comes to innovation, new approaches tend to occur in isolation within a single institution or state, and can often require an up-front investment in new technologies, as well as internal support from faculty, accrediting agencies, state and federal policymakers, and other stakeholders. While innovation has enormous potential for improving attainment and access in higher education, given the challenging environment in which innovation must unfold, it is not wise to rely on this process as a solution to pressing economic pressures.

It is much easier for college administrators to cut the quality of education students are provided, shift enrollment towards out-of-state students, increase overall enrollment, or increase tuition revenues by raising the amount charged to everyone. All of these options have negative consequences for students.

Reinventing how we finance state higher education systems could help avoid these scenarios. At a minimum, states and localities could be required to maintain per-student funding levels from prior years in order to receive federal aid. This would make it more difficult to cut higher education funding when budgets get tight. This alone would not solve the broader fiscal realities state legislatures face during a recession, but would ensure higher education maintains adequate funding levels.

Generating a new state-federal partnership could be a more thoughtful solution to the problem of state and local disinvestment. While a variety of ideas have been proposed,[9] key features of such a model would involve new federal funding to states

that agree to meet certain conditions, including keeping tuition down and state appropriations up. Such a model also gives the federal government additional leverage to require states to meet certain accountability standards, and to create incentives to enroll higher proportions of low-income students, even at the most selective schools. Such a partnership could even be built to operate counter-cyclically: if federal funding to states is tied to enrollment and income levels of students, when a recession hits, these forces would automatically trigger increased federal contributions to higher education systems. While these reforms would not solve all of the problems of economic cycles, it would provide states an incentive to fund institutions at a healthy level, and it would reduce reliance on tuition revenue as a way to stabilize budgets after a recession hits.

Appendix A: Methodology

Constructing our analysis requires the creation of projections in enrollment, state appropriations and aggregate tuition revenue for 2016 through 2022, as these are not readily available from any other source. We use data from the State Higher Education Executive Officers Organization (SHEEO) on historic enrollment and revenue trends to create estimates of future enrollment, state appropriations, and tuition. We model recessions of two different sizes, using the 2001 and 2008 recessions to predict what the impact of a future recession might look like. We use these data to model year over year projections of enrollment, per-student state appropriations, and per-student tuition revenue, through the year 2022.

Our methodological approach does not account for individual events that may have affected a state's college population, budgets, or local tuition costs. For example, due to the catastrophic effects effects of Hurricane Katrina, Louisiana's enrollment plunged after 2004. This in turn meant that per--student appropriations appear much higher in these years. In most cases, these external forces are not immediately apparent, nor is a clear way of modifying the data to adjust for these events readily available. In order to maintain consistency, we make no changes to the historic data and do not account for these anomalies in our estimates going forward. However, readers should be aware that substantial deviations between past experience and future events are to be expected.

Projecting Enrollment at the State Level

We use full time equivalent (FTE) enrollment as reported by SHEEO for the years 2001 to 2015. We calculate the average year over year change in enrollment for each state to create a baseline projection of annual enrollment growth absent any economic fluctuations. We then calculate deviations from that average in each year, using these deviations to project the enrollment impact of specific economic circumstances.

Because SHEEO's enrollment and revenue data do not differentiate between in-state and out-of-state students, we include all students regardless of residency status. Similarly, SHEEO combines data for two- and four-year schools for both revenue and enrollment tracking, and we estimate average tuition for these two groups combined. This masks substantial variation in how much students are actually charged as a result of their choice of institution.

Projecting Appropriations and Aggregate Tuition Revenue

We use appropriations and aggregate tuition revenue data from SHEEO for the years 2000 to 2015. We then create a measure of average growth, and assume states deviate from the average as a result of each

recession. In the first model, 2001 maps to 2016, and so on. The 2008 model uses the same information from later years. All dollar figures are presented in the current year equivalents: for historic data, the consumer price index is used to adjust for inflation. For future data, no inflation adjustments are required because the numbers are already in 2015 dollars. Data are not adjusted for regional cost of living variation, or for enrollment mix among institutions in each state. We divide aggregate appropriations and tuition projections by enrollment projections to arrive at per-student figures.

Year of Projection	Baseline Year, 2001 Model	Baseline Year, 2008 Model
2015	2001	2008
2016	2002	2009
2017	2003	2010
2018	2004	2011
2019	2005	2012
2020	2006	2013
2021	2007	2014
2022	2008	2015

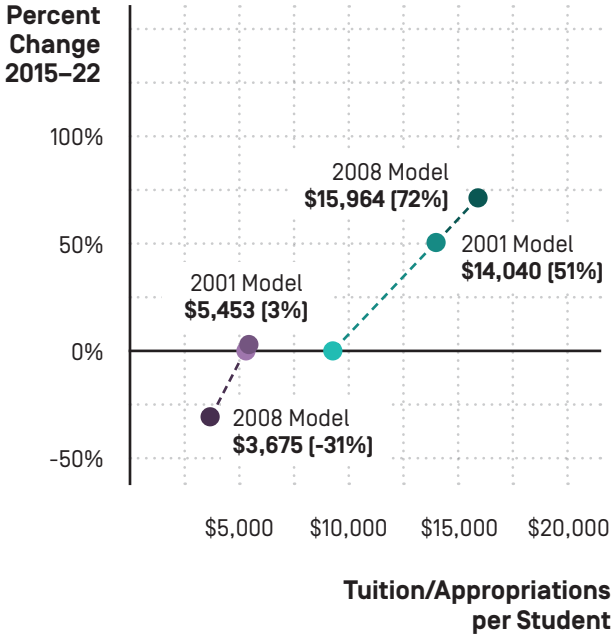
Classifying States

Because of the inherent complexity of state higher education systems, there are many ways of looking at the same data. We explore three different constructs to understand individual state experiences and to identify trends among groups of states. First, we look at the projected change in state appropriations from now until 2022, and identify states that will likely cut the most, as well as states where per-student appropriations fall below the maximum Pell grant award in 2015. We then look at average tuition, using aggregate tuition revenue and FTE to estimate per-student tuition paid. We classify states based on the percentage above the national average for tuition in 2015. Finally, we combine our two key elements, and look at the change in per-student state appropriations relative to the change in per-student tuition revenue over the period studied. While most states are projected to see lower per-student appropriations, the increases in tuition revenue have substantially outpaced these cuts.

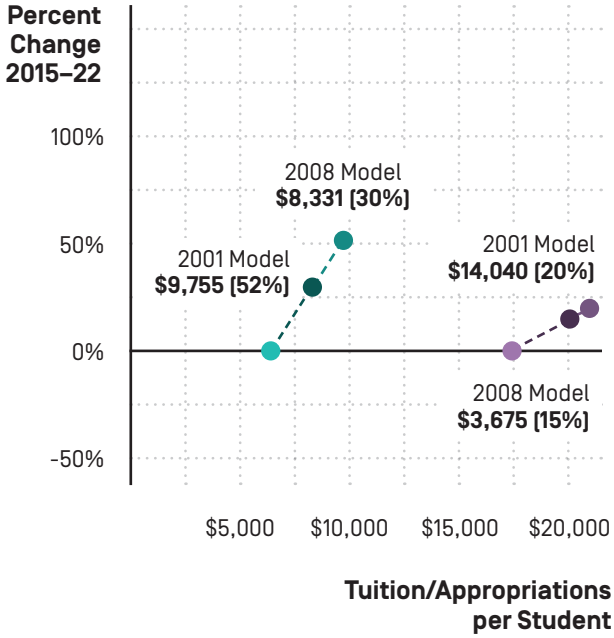
In addition to these broad classifications, we also create a state-ranking system to assess the relative strengths and weaknesses of states nationally. We use a variety of factors in creating these rankings. These include per-student tuition and appropriations levels, the projected change in per-student tuition and appropriations over the time period studied assuming recessions of different sizes, and the net changes in per-student appropriations and per-student tuition. We rank states on each of these factors, from best to worst. We then aggregate point totals, with low scores assigned to states who fare better during the recession, and use these aggregated scores to order states for our final ranking.

Appendix B: State Data

Alabama



Alaska



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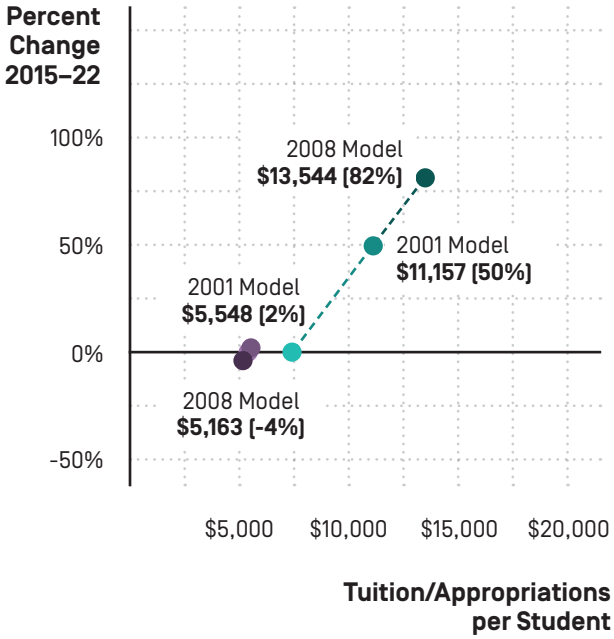
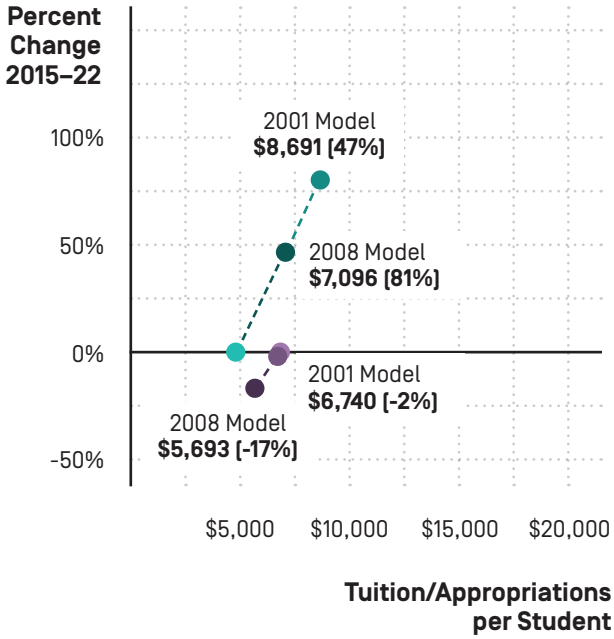


Arkansas



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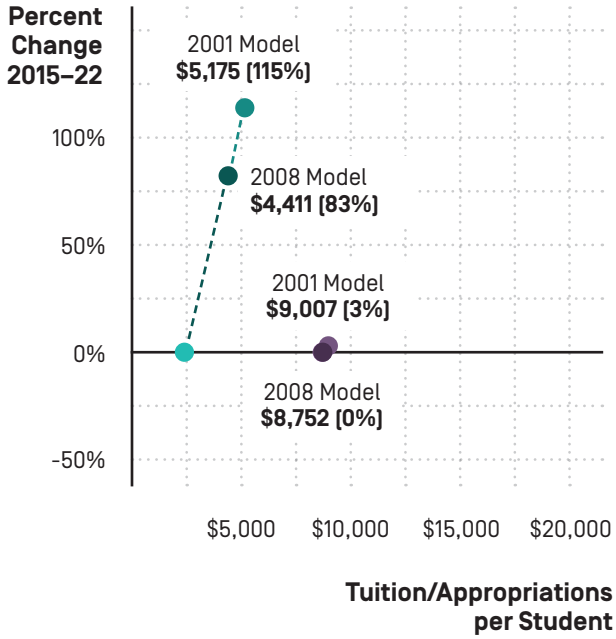
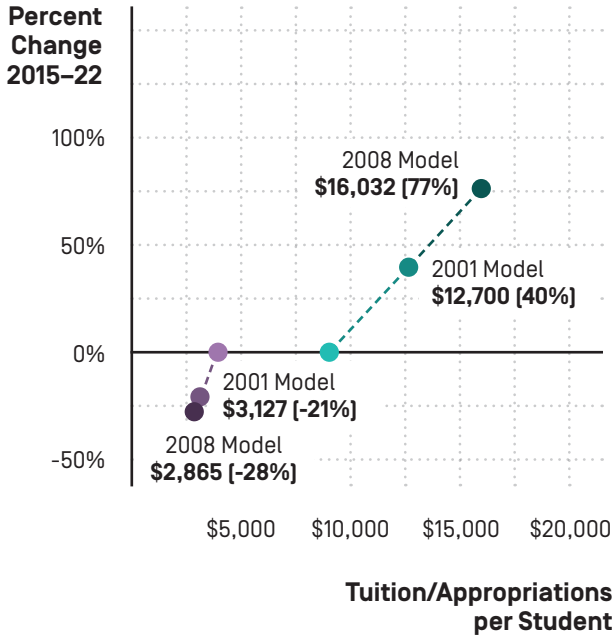


Colorado



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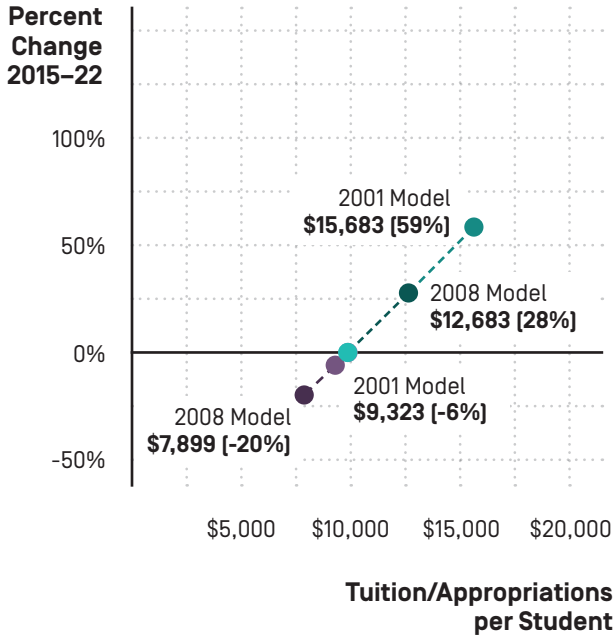

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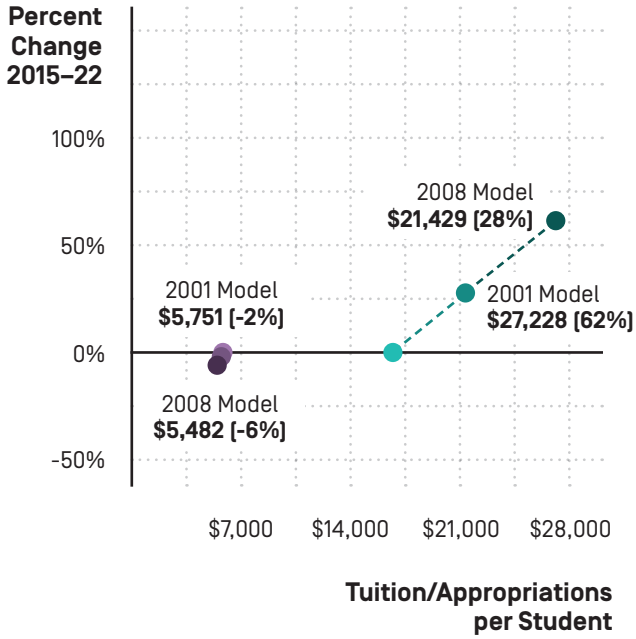
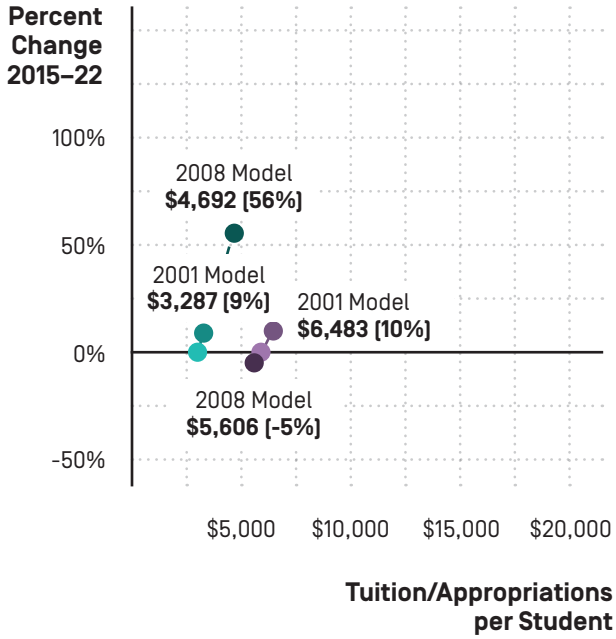


Tuition:
2015 · 2022 (2001 Model) · 2022 (2008 Model)

Appropriations:
2015 · 2022 (2001 Model) · 2022 (2008 Model)

Florida



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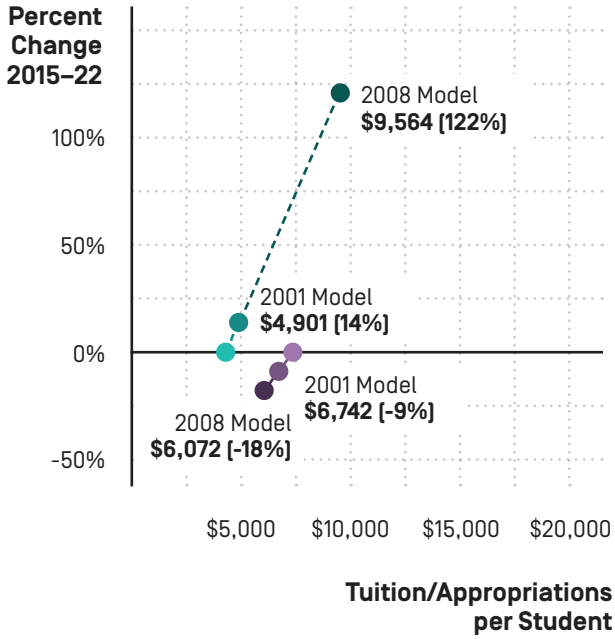

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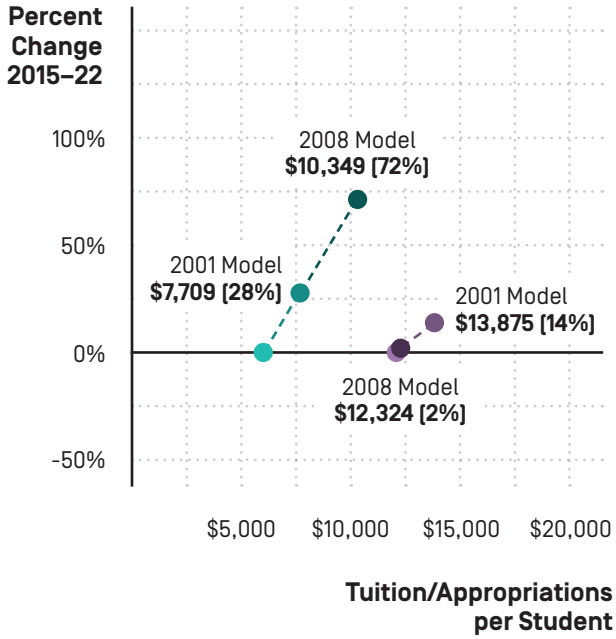

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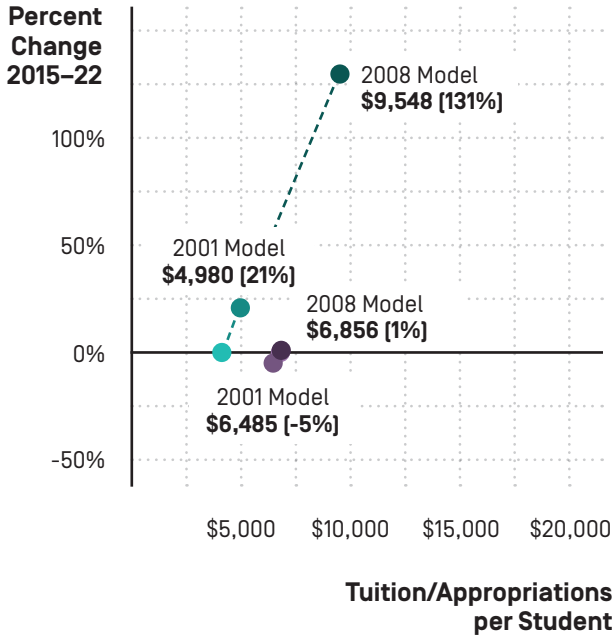

Tuition:
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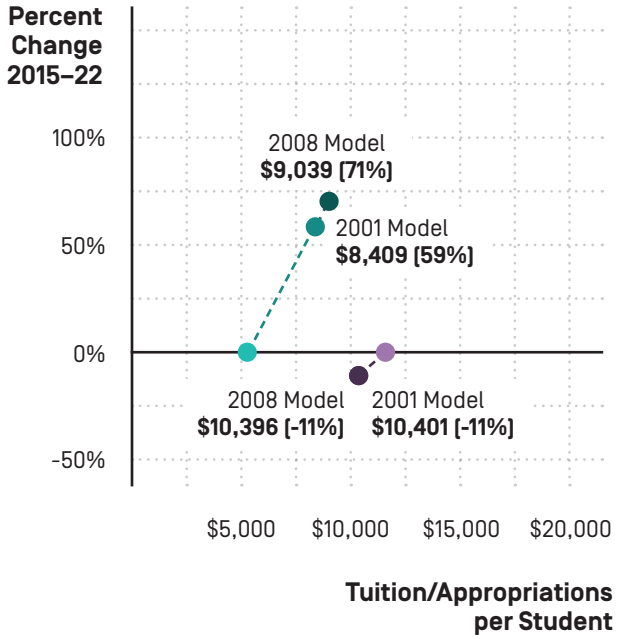
Appropriations:
2015 · 2022 (2001 Model) · 2022 (2008 Model)

Illinois



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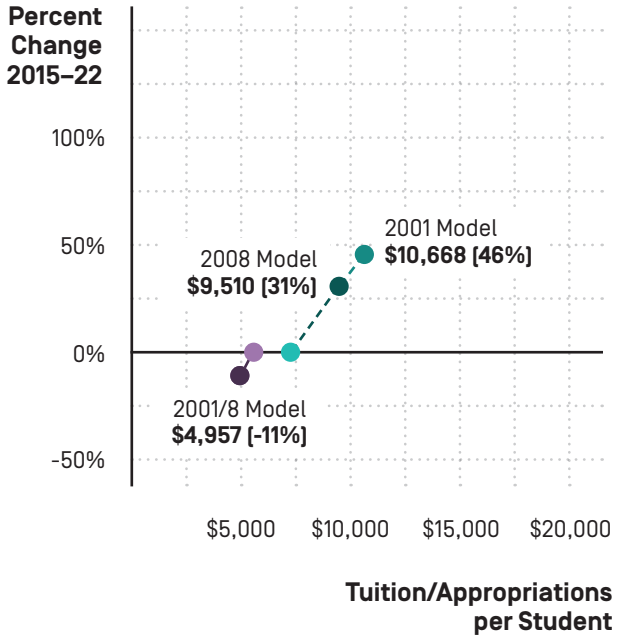

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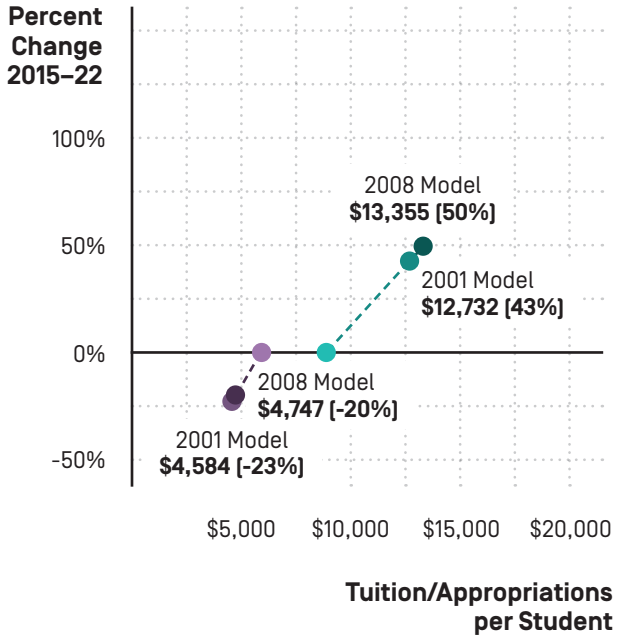
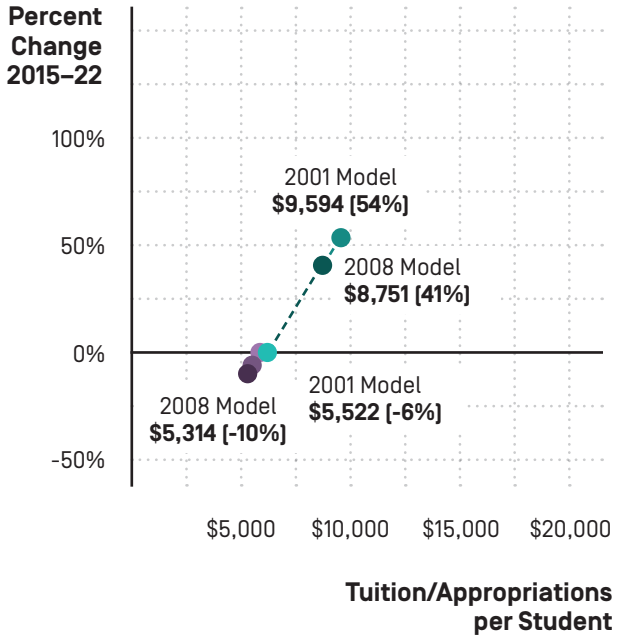


Kansas



Tuition:
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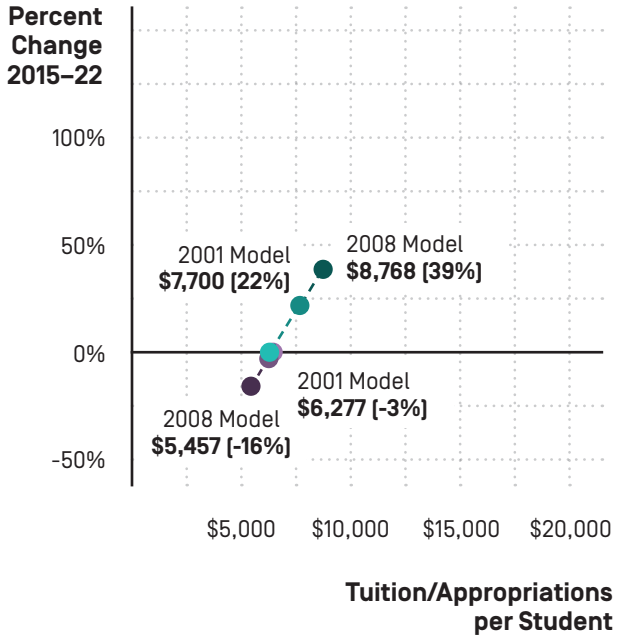
Appropriations:
2015 · 2022 (2001 Model) · 2022 (2008 Model)

Kentucky



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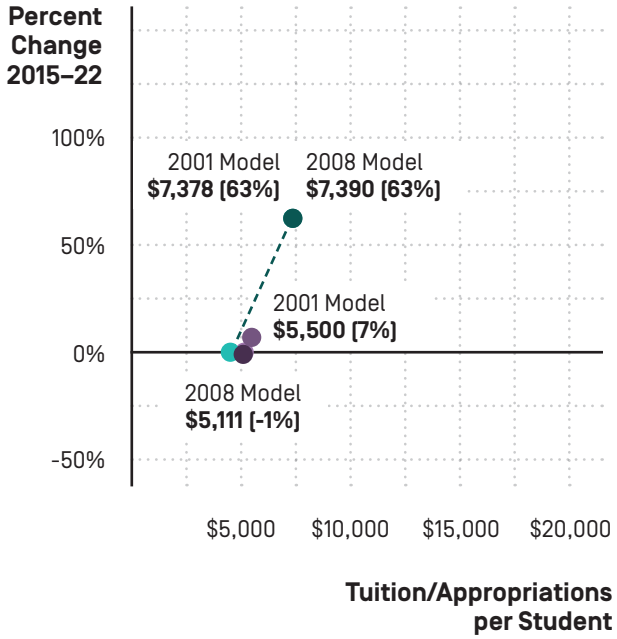
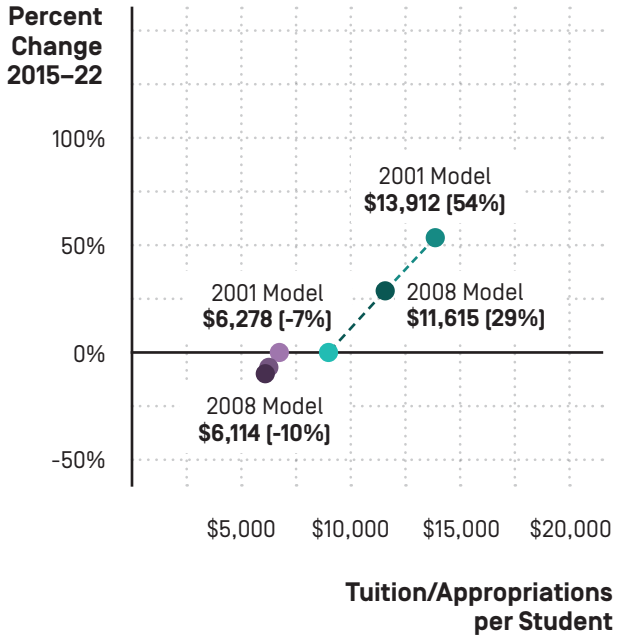


Maine



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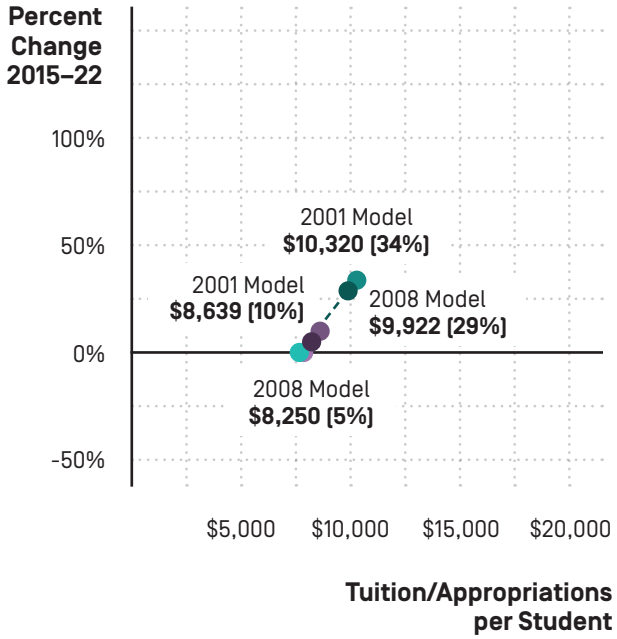

Tuition:
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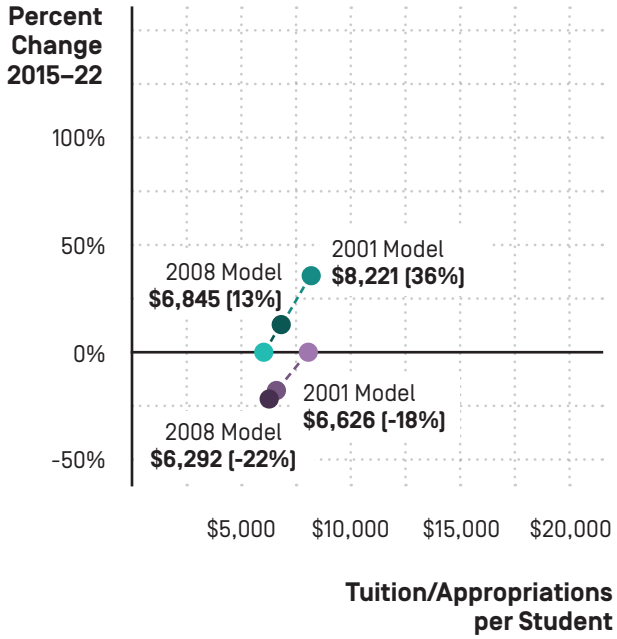
Appropriations:
2015 · 2022 (2001 Model) · 2022 (2008 Model)

Massachusetts



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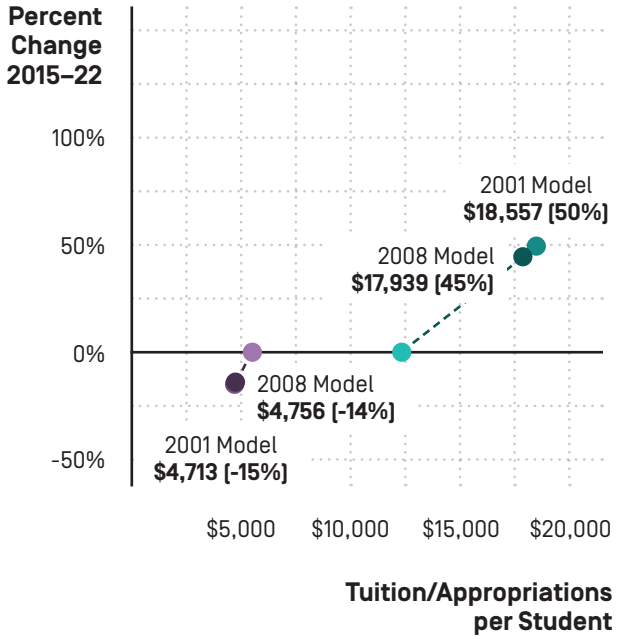

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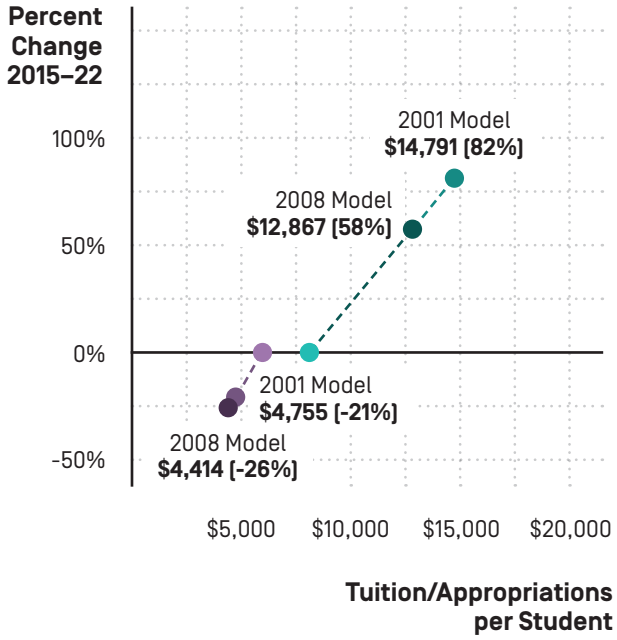

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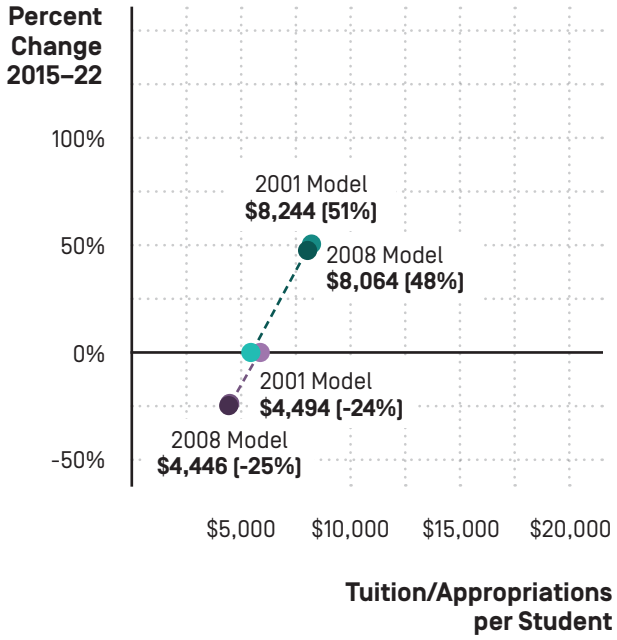

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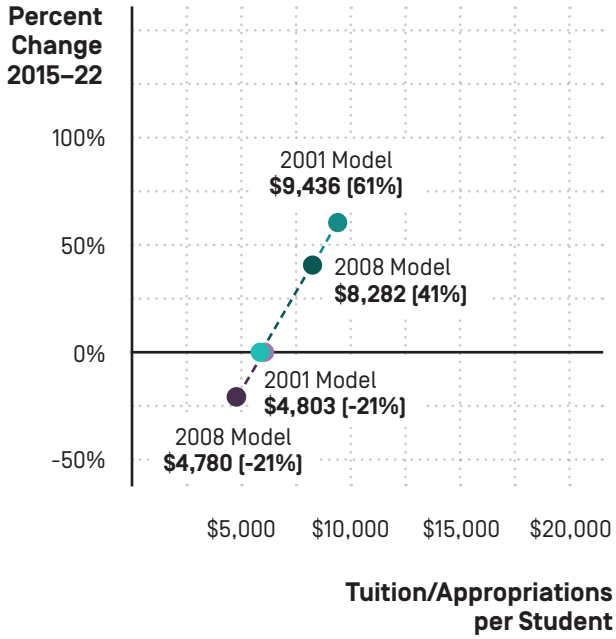
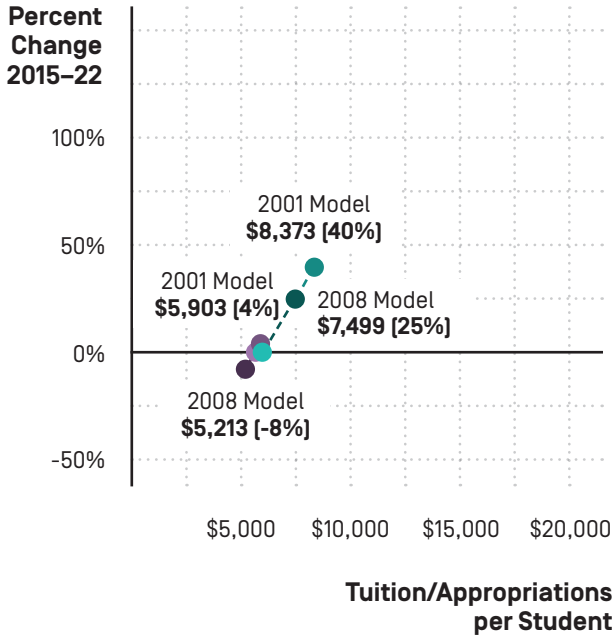
Appropriations:
2015 · 2022 (2001 Model) · 2022 (2008 Model)

Missouri



Montana



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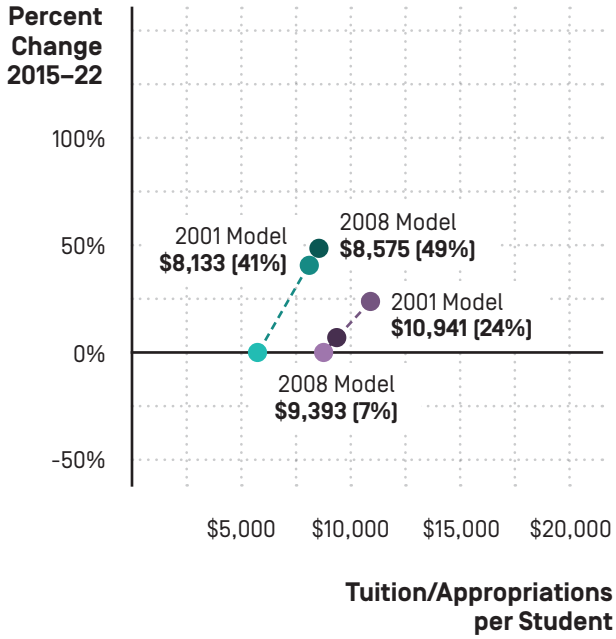
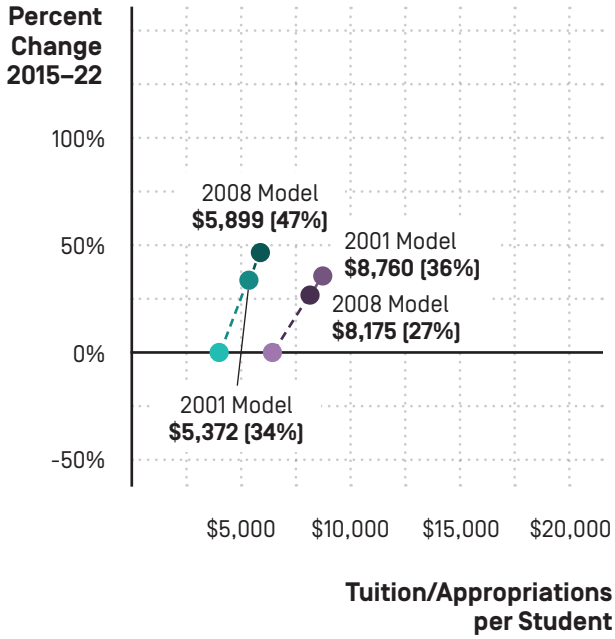


Nevada



Tuition:
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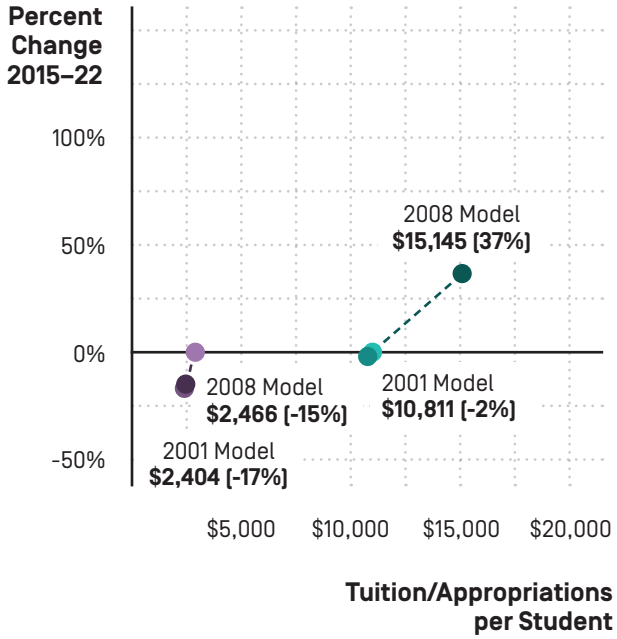
Appropriations:
2015 · 2022 (2001 Model) · 2022 (2008 Model)

New Hampshire



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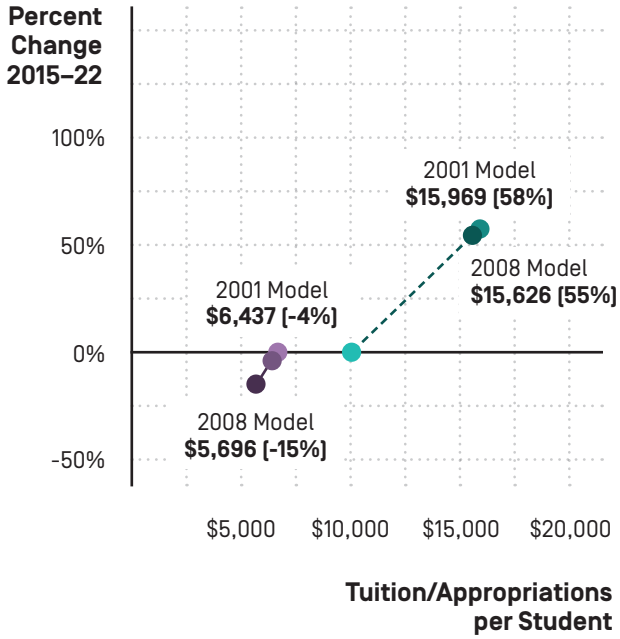
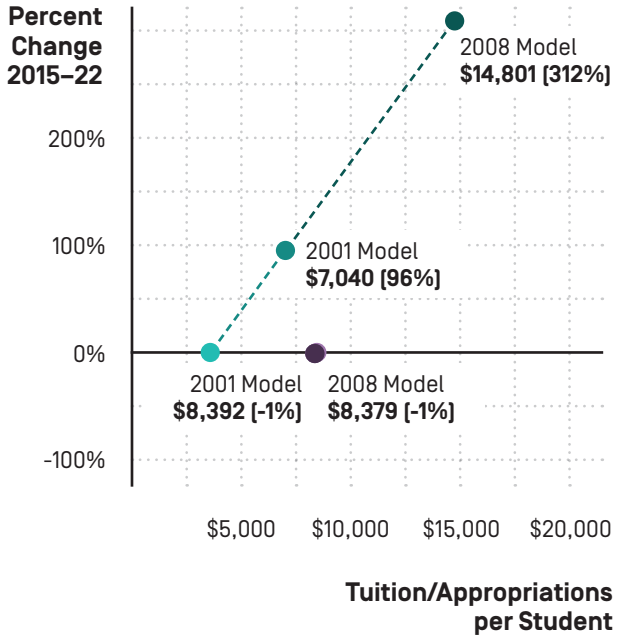


New Mexico



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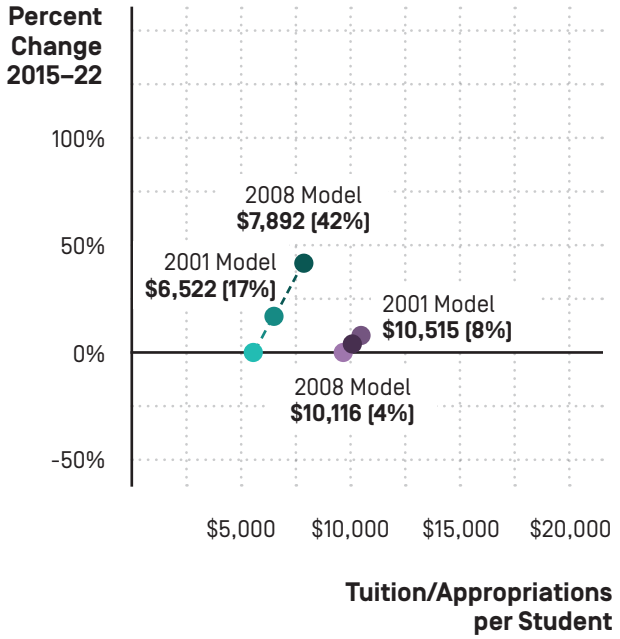
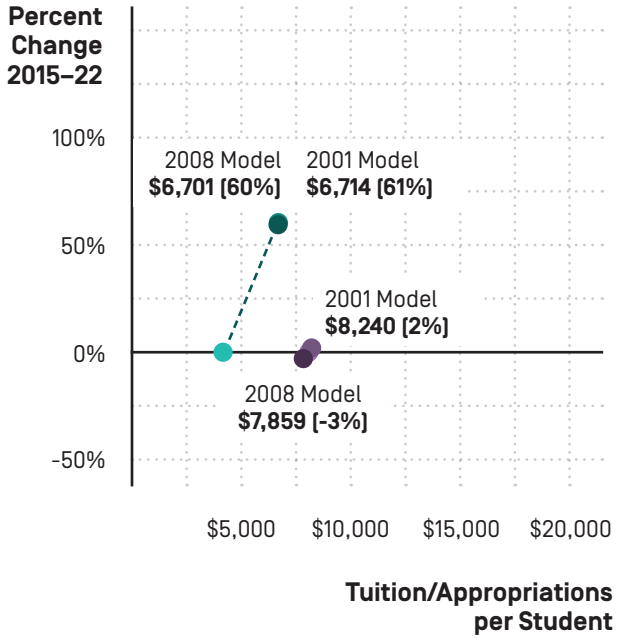


Tuition:
2015 · 2022 (2001 Model) · 2022 (2008 Model)

Appropriations:
2015 · 2022 (2001 Model) · 2022 (2008 Model)

North Carolina



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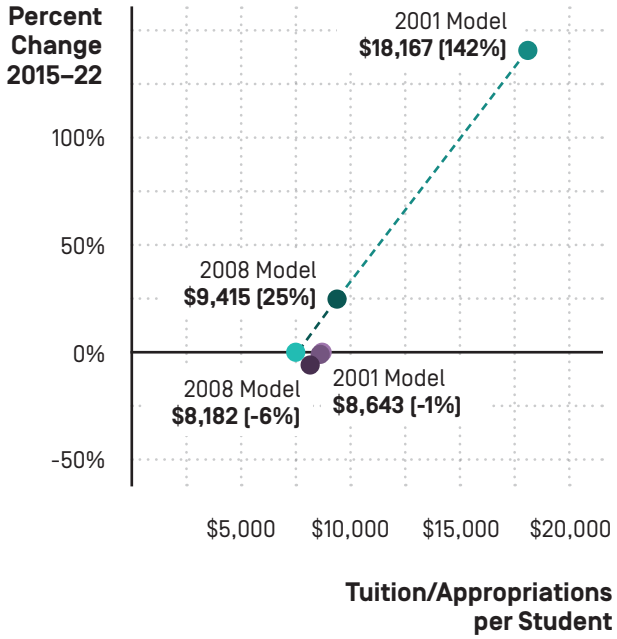

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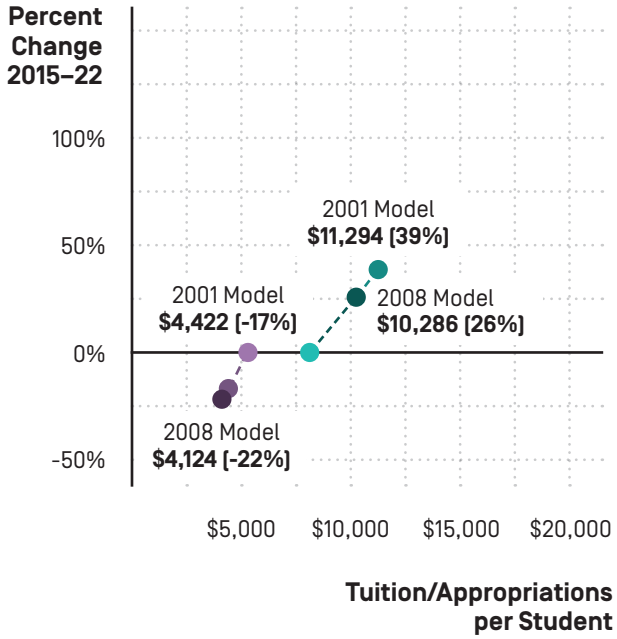

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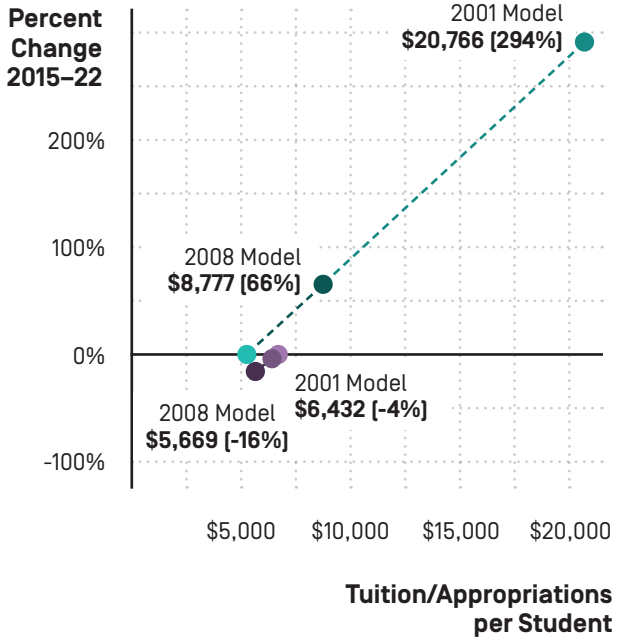
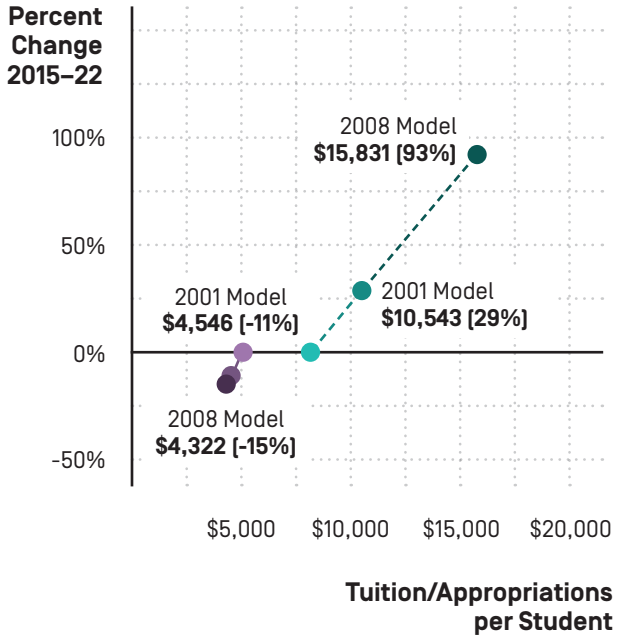


Tuition:
2015 · 2022 (2001 Model) · 2022 (2008 Model)

Appropriations:
2015 · 2022 (2001 Model) · 2022 (2008 Model)

Oregon



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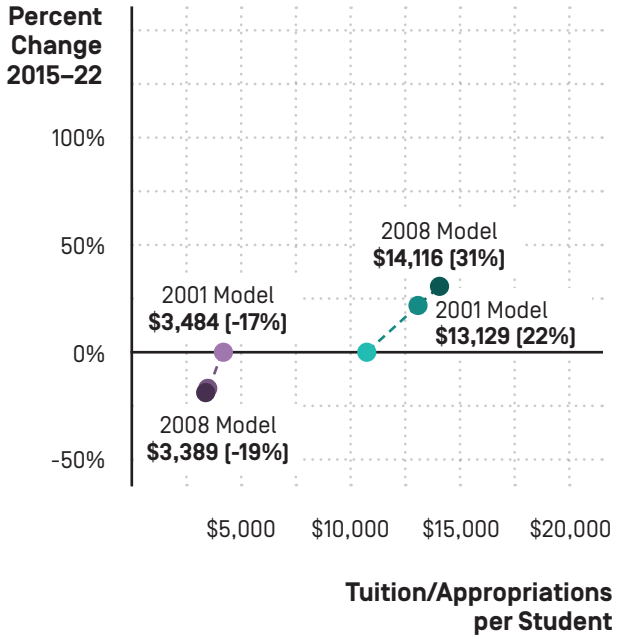

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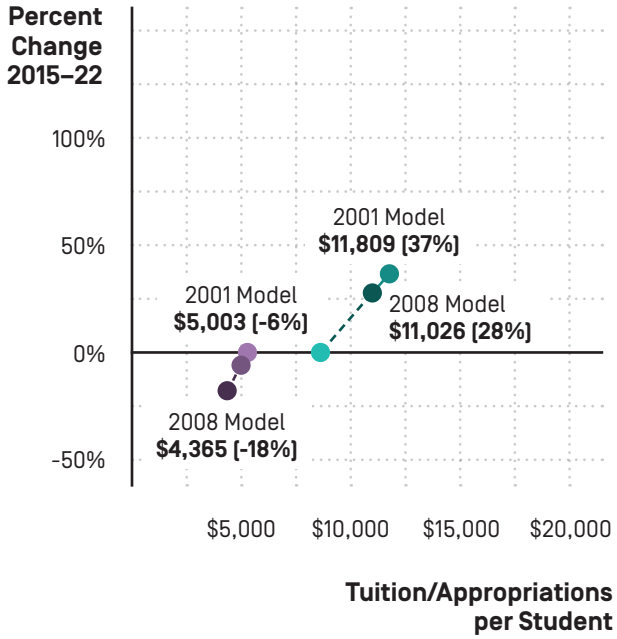
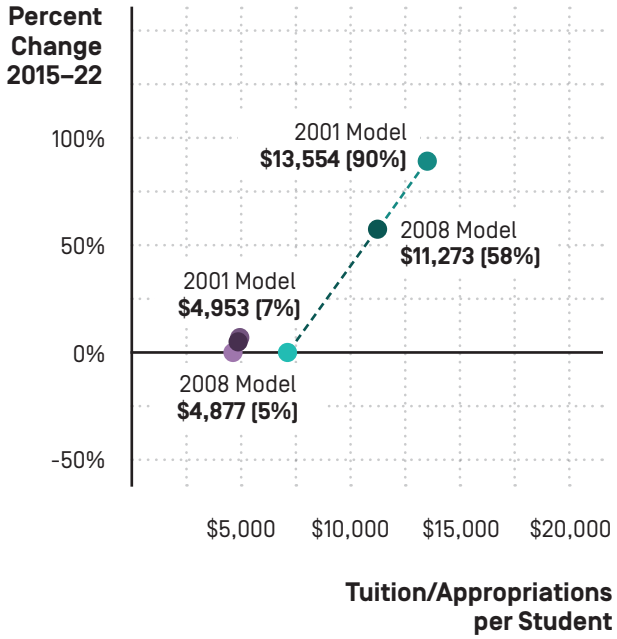


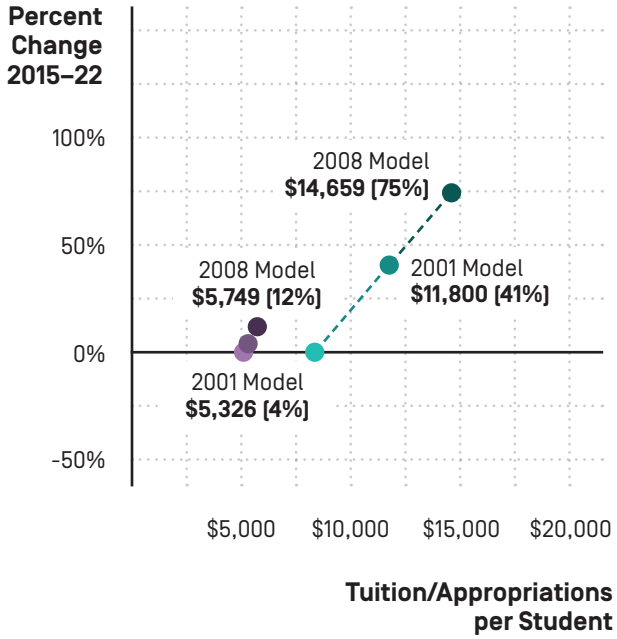
South Carolina



Tuition:
2015 · 2022 (2001 Model) · 2022 (2008 Model)

Appropriations:
2015 · 2022 (2001 Model) · 2022 (2008 Model)

South Dakota



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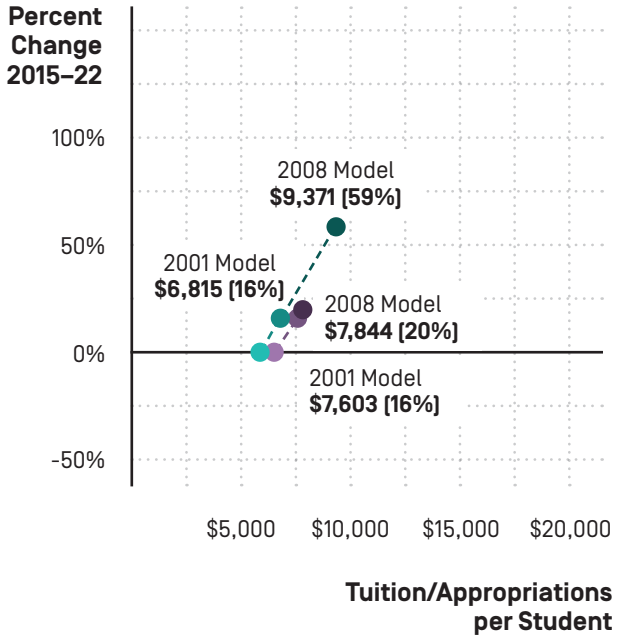

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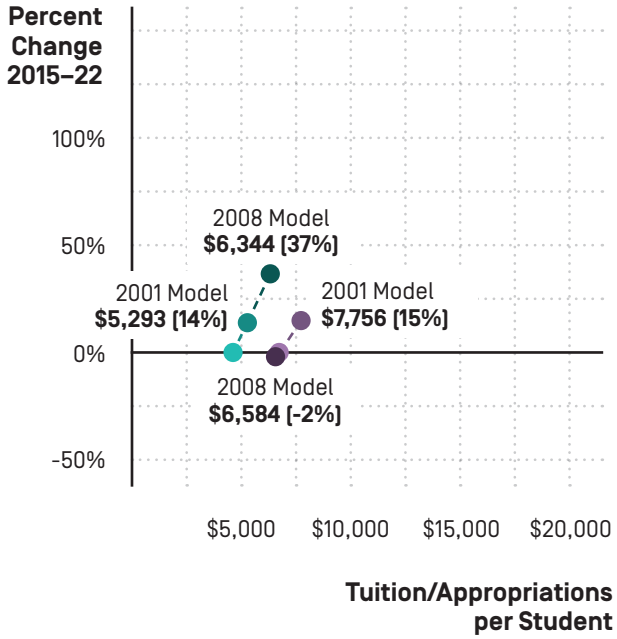

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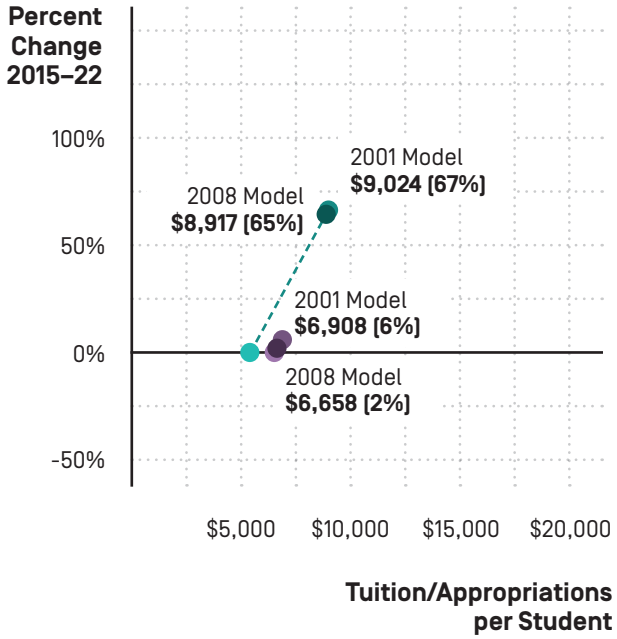
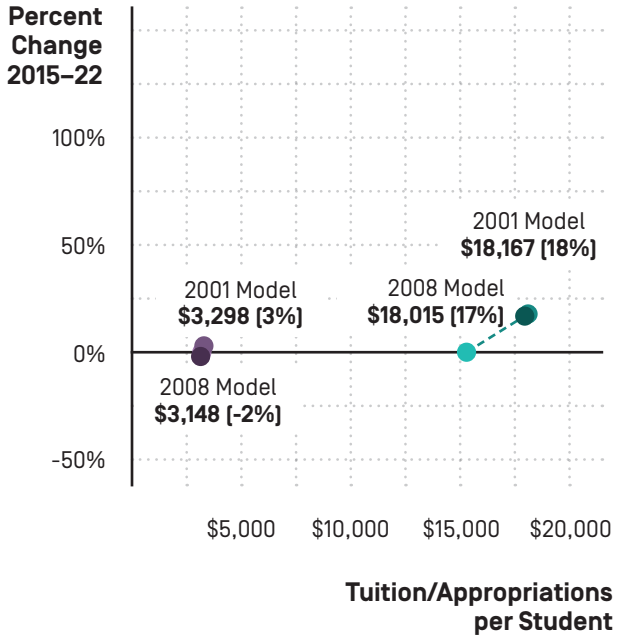


Tuition:
2015 · 2022 (2001 Model) · 2022 (2008 Model)

Appropriations:
2015 · 2022 (2001 Model) · 2022 (2008 Model)

Vermont



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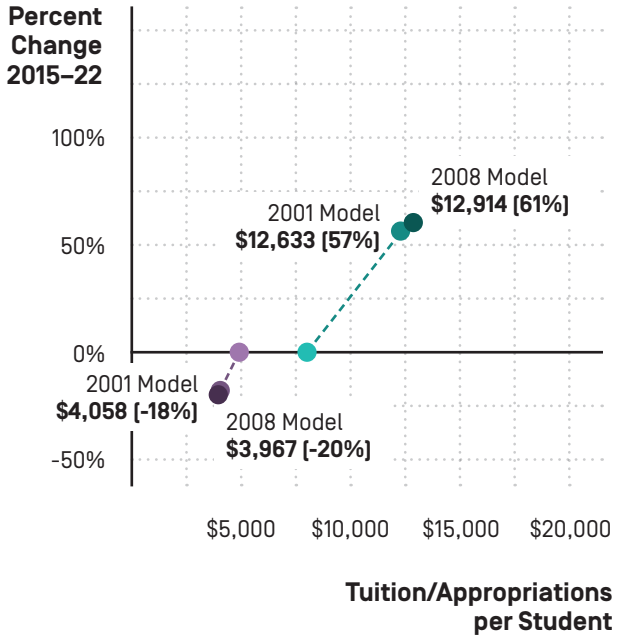
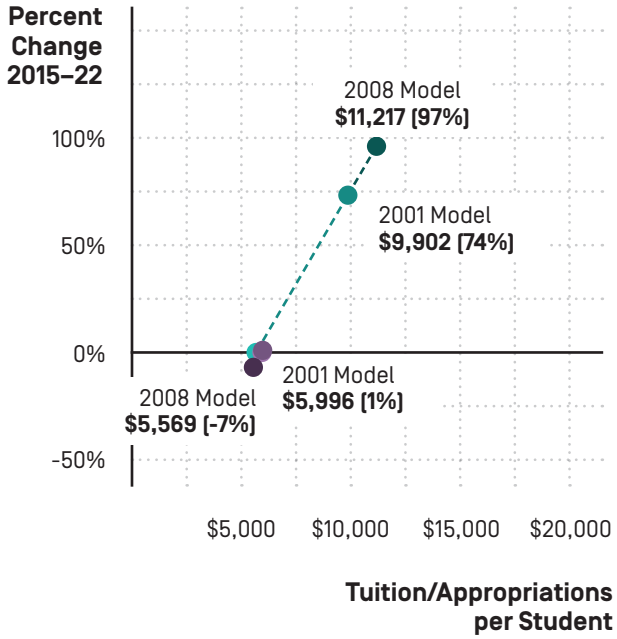


Washington



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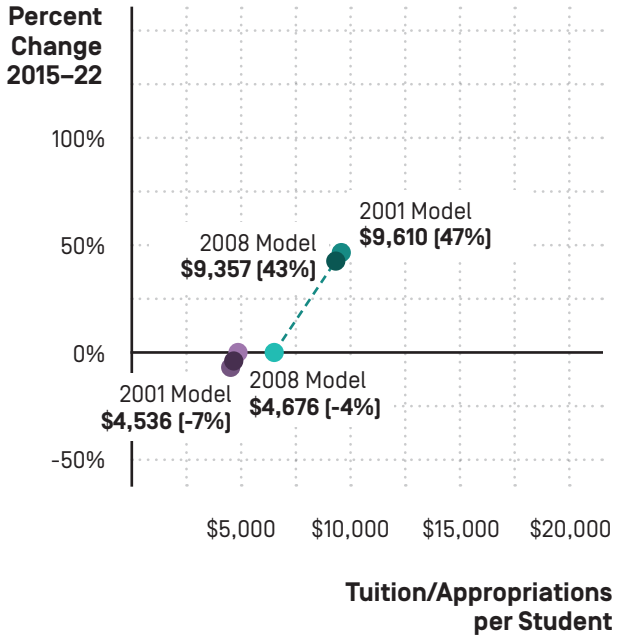
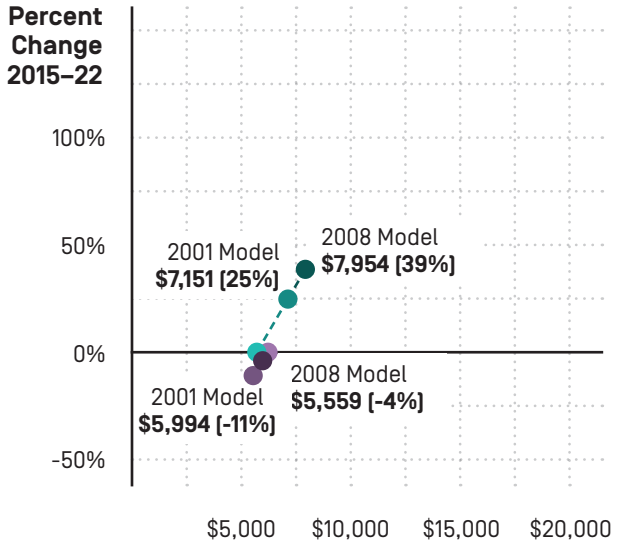


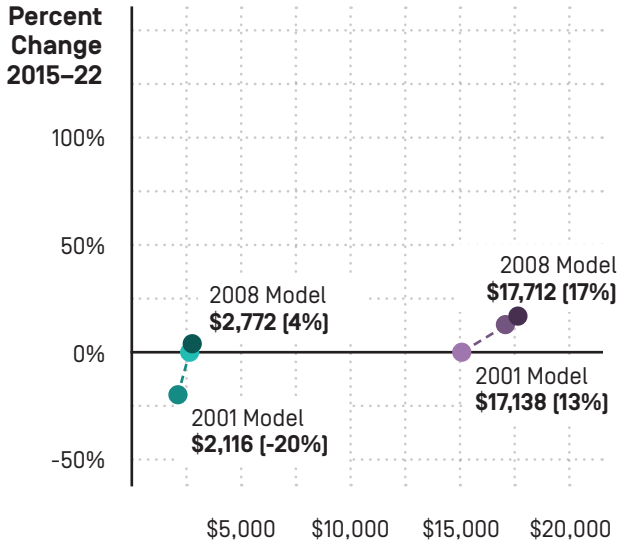
Tuition:
2015 · 2022 (2001 Model) · 2022 (2008 Model)

Appropriations:
2015 · 2022 (2001 Model) · 2022 (2008 Model)

Wisconsin



Wyoming



Tuition:
2015 · 2022 (2001 Model) · 2022 (2008 Model)

Appropriations:
2015 · 2022 (2001 Model) · 2022 (2008 Model)

Notes

[1] Stephen Burd, *Undermining Pell: Volume III* (Washington, DC: New America, March 2016), https://www.newamerica.org/education-policy/policy-papers/undermining-pell-volume-iii/.

[2] Stephen Burd, *The Out-of-State Student Arms Race: How Public Universities Use Merit Aid to Recruit Non-Resident Students* (Washington, DC: New America, May 2015), https://www.newamerica.org/education-policy/policy-papers/out-of-state-student-arms-race/.

[3] Paul T. Brinkman and Larry L. Leslie, "Student Price Response in Higher Education: The Student Demand Studies," *Journal of Higher Education* 58 (March–April 1987): 181–204.

[4] *Trends in Student Aid 2016*, The College Board, 2016, https://trends.collegeboard.org/sites/default/files/2016-trends-student-aid.pdf.

[5] Kim Dancy and Jason Delisle, "Do State Subsidies for Public Universities Favor the Affluent?" Brookings Institution, *Evidence Speaks Reports* 1, no. 23 (July 28, 2016), https://www.brookings.edu/wp-content/uploads/2016/07/ES_20160728_Public_University_Subsidies_Delisle_Dancy.pdf.

[6] Burd, *The Out-of-State Student Arms Race*.

[7] Paul F. Campos, "The Real Reason College Tuition Costs So Much," *New York Times*, April 4, 2015, http://www.nytimes.com/2015/04/05/opinion/sunday/the-real-reason-college-tuition-costs-so-much.html.

[8] Dan White and Sarah Crane. "Crowded Out: The Outlook for State Higher Education Spending." Moody's Analytics. April, 21, 2015, http://web1.millercenter.org/commissions/higher-ed/2015-higherEdFunding-Moodys.pdf.

[9] Ben Barrett, *Strengthening the Partnership: A Survey of Proposed Higher Education Funding Solutions* (Washington, DC: New America, April 2016), https://www.newamerica.org/education-policy/policy-papers/strengthening-the-partnership/.

Data

State Higher Education Finance FY 2015. (Boulder, Colorado: State Higher Education Executive Officers Associations).